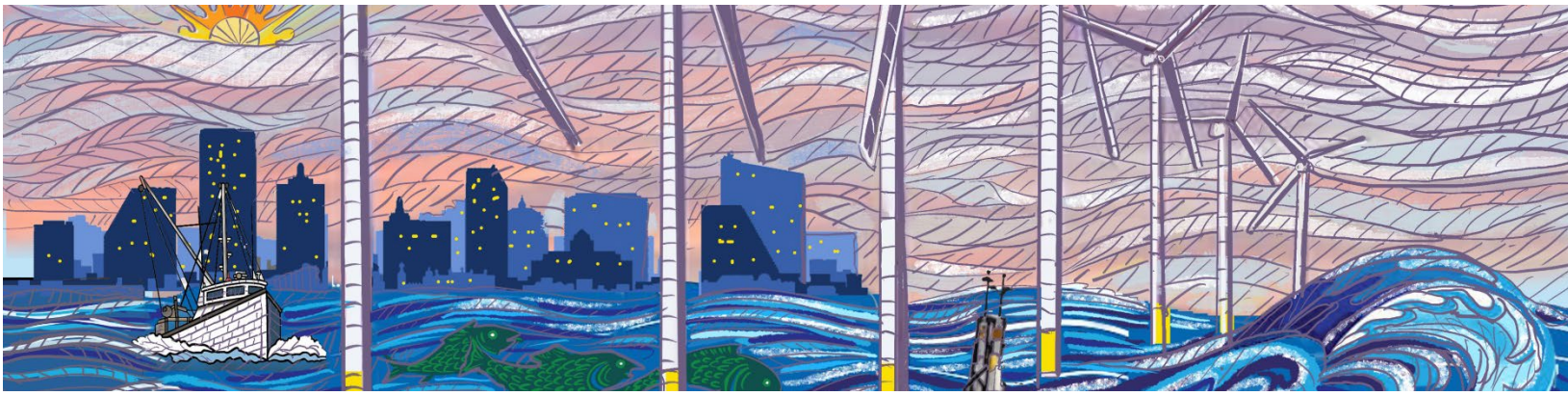

Appendix II-N1

Historic Resources Effects Assessment (HREA) – Onshore Interconnection Facilities

May 2024

Technical Report
Historic Resources Effects Assessment

Atlantic Shores Offshore Wind
Onshore Interconnection Facilities

Prepared for:

ATLANTIC SHORES offshore wind

Atlantic Shores Offshore Wind LLC

Prepared by:

EDR

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202

March 2021, Revised December 2021, December 2022, February 2023, April 2023, December 2023

MANAGEMENT SUMMARY

Involved State/Federal Agencies:	Bureau of Ocean Energy Management New Jersey State Historic Preservation Office New Jersey Department of Environmental Protection
Phase of Survey:	Historic Resources Effects Assessment
Location Information:	Egg Harbor and Howell Townships, Atlantic County, New Jersey
Proposed Onshore Substation and/or Converter Station sites:	The Lanes Pond Road Site is an approximately 16.3-acre (6.6-ha) parcel consisting of agricultural fields and wooded areas south of the intersection of Miller Road and Lanes Pond Road in Howell Township. The Brook Road Site is an approximately 99.4-acre (40.2-ha) combination of two parcels consisting primarily of forested uplands and some wetlands between Randolph Road and the Metedeconk River in Howell Township. The Randolph Road Site is an approximately 24.6-acre (9.97-ha) combination of three parcels consisting of a steel fabrication facility with associated laydown yard, offices, and parking, as well as forested wetlands surrounding Dicks Brook. The location in north of Randolph Road to the northeast of the existing Larrabee POI in Howell Township. The Fire Road Site at approximately 3038 Fire Road, is situated on approximately 19.71 acres (7.98 ha) of currently wooded and overgrown lots in Egg Harbor Township.
USGS 7.5-Minute Quadrangles:	*Asbury Park, NJ, Farmingdale, NJ, Pleasantville, NJ and Lakewood, NJ, Atlantic City, NJ, Oceanville, NJ*
Preliminary Area of Potential Effects:	The area within a 1-mile (1.6 km) radius of each proposed onshore substation/converter station with potential visibility (based on a viewshed analysis).
Historic Resources Effects Assessment Overview:	Larrabee Substation/Converter Stations: Two historic districts that were previously determined to be S/NRHP-eligible are located within the PAPE.

	Fire Road Site: One historic district that was previously determined to be S/NRHP-eligible and one contributing resource that is recommended S/NRHP-eligible located within the PAPE. No potential adverse impacts are anticipated to any of these properties resulting from the Onshore Interconnection Facilities.
Report Authors:	Grant Johnson, Laura Mancuso
Date of Report:	Initial submission March 2021, updates December 2021, December 2022, February 2023, April 2023, and December 2023.

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1.0 INTRODUCTION

1.1 Purpose of the Investigation

On behalf of Atlantic Shores Offshore Wind, LLC (Atlantic Shores), a 50/50 joint venture between EDF-RE Offshore Development, LLC, a wholly owned subsidiary of EDF Renewables, Inc. (EDF Renewables) and Shell New Energies US, LLC (Shell), Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C. (EDR) prepared this Historic Resources Effects Assessment (HREA) for the proposed Onshore Interconnection Facilities (or the Facilities), located in Egg Harbor and Howell Townships, Atlantic County, New Jersey (see Figure 1.3-1). The HREA was prepared to assist the New Jersey Department of Environmental Protection (NJDEP), New Jersey State Historic Preservation Office (NJHPO), the Bureau of Ocean and Energy Management (BOEM), and other relevant New Jersey State and/or Federal agencies and consulting partners in their review of the Facilities under Section 7:4 of the NJAC, the State of New Jersey Executive Order #215, and/or Section 106 of the National Historic Preservation Act (NHPA), as applicable, and in support of the Atlantic Shores Construction and Operations Plan (COP) for two offshore wind energy generation projects (the Projects) within the southern portion of BOEM Lease Area OCS-A 0499 for renewable energy generation from offshore wind.

The purpose of the HREA is to identify and document aboveground historic properties within the Onshore Facilities Visual Preliminary Area of Potential Effects (PAPE) (as described below in Section 3.0) and to evaluate the Facilities' potential visual effects on the qualities that make aboveground historic properties eligible for listing in the State[1] and/or National Register of Historic Places (S/NRHP). Per 36 CFR 800.16, aboveground historic properties are defined as districts, buildings, structures, objects, or sites that are listed or eligible for listing in the National Register of Historic Places (NRHP) or which have been designated as National Historic Landmarks (NHL).

Subsequent to the initial filing of the COP, Atlantic Shores has revised the proposed onshore project design, which is detailed further in a submittal of a revised Volume I of the COP. This Onshore HREA addresses this revision of the proposed Onshore Interconnection Facilities. Atlantic Shores is currently considering two options for the Facilities; a High Voltage Alternating Current (HVAC) option, a High Voltage Direct Current (HVDC) option, and an option that utilizes both HVAC and HVDC, as described in Section 1.3.2. All three options are addressed herein.

The HREA has been conducted by professionals who satisfy the qualifications criteria per the Secretary of the Interior's (SOI) Professional Qualifications Standards for archaeology and architectural history (36 CFR Part 61), as appropriate. The HREA report was prepared in accordance with applicable portions of NJAC § 7:4-8.6, *Standards for Architectural Survey Reports* (NJHPO, 2008). A Terrestrial Archaeological Resources Assessment (TARA) assessing the potential impacts of the Onshore Facilities on subsurface cultural resources is being prepared and will be provided under separate cover as Appendix II-P1 of the COP.

[1] For the purposes of this HREA, SRHP refers specifically to the New Jersey Register of Historic Places.

1.2 Regulatory Context for Review of Effects on Historic Properties

The Projects are considered a federal undertaking and therefore, subject to Section 106 of the National Historic Preservation Act (NHPA) (54 USC 306108). This HREA is intended to assist BOEM, the New Jersey Historic Preservation Office (NJHPO), and other participating agencies and consulting parties/stakeholders with a review of the Projects under Sections 106 and 110(f) of the NHPA, and the National Environmental Policy Act (NEPA).

In 2020, the BOEM Office of Renewable Energy Programs issued updated *Guidelines for Providing Archaeological and Historic Property Information, Pursuant to 30 CFR 585*[2] (BOEM, 2020), which states the following with regard to identification of historic properties:

> *BOEM requires detailed information regarding the nature and location of historic properties that may be affected by an applicant's proposed activities to conduct review of the plan under Section 106 of NHPA (54 U.S.C. § 306108). As defined in the regulations implementing Section 106 [36 CFR § 800.16 (1) (1)],*
>
> *Historic property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. This term also includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria* (BOEM, 2020: 2).

The *Guidelines for Providing Archaeological and Historic Property Information* includes methods for identification of historic properties, as well as coordination with BOEM and relevant State Historic Preservation Offices (SHPOs) and Tribal Historic Preservation Offices (THPOs).

The discussion of visual effects on aboveground historic properties in this HREA is limited to potential visual effects of the above-surface components of the Onshore Interconnection Facilities only on the visual setting of aboveground historic properties. However, a complete description of all offshore and onshore components of the Projects is provided below.

1.3 Overview of the Projects

Atlantic Shores' Lease Area is located on the OCS within the New Jersey Wind Energy Area (NJWEA), which was identified by BOEM as suitable for offshore renewable energy development through a multi-year, public environmental review process. The Projects will be located in an approximately 102,124-acre (413.3-square kilometer [km2]) Wind Turbine Area (WTA) located in the southern portion of the Lease Area (see Figure 1.3-1). Project 1 is located in the western 54,175 acres (219.2 km2) of the WTA, and Project 2 is located in

[2] Available online at https://www.boem.gov/sites/default/files/renewable-energy-program/Guidelines-for-Providing-Archaeological-and-Historic-Property-Information-Pursuant-to-30CFR585.pdf (Accessed June 17, 2020).

the eastern 31,847 acres (128.9 km2) of the WTA with a 16,102-acre (65.2-km2) Overlap Area that could be used by either Project 1 or Project 2. Figure 1.3-1 also depicts the boundaries of the Project 1 and Project 2 areas within the WTA.

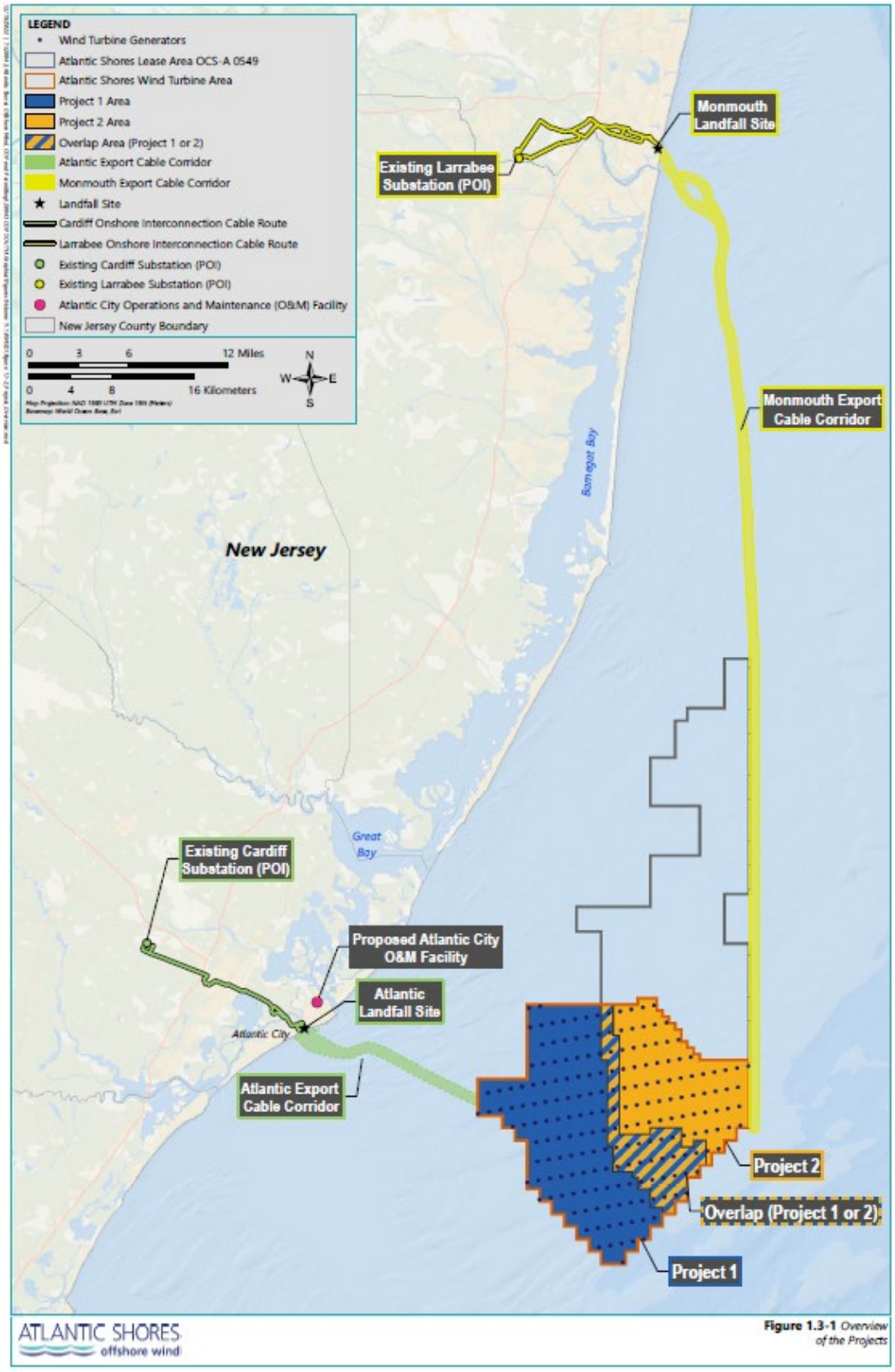


Figure 1.3-1. Overview of the Projects.

1.3.1 Project Design Envelope

Atlantic Shores has applied a Project Design Envelope (PDE) approach to describe the facilities and activities associated with the Projects. A PDE is defined as "a reasonable range of project designs" associated with various components of a project (e.g., foundation and WTG options) (BOEM, 2018). In accordance with the PDE evaluation approach, the assessment of project effects must include the maximum design case for all project development scenarios. Consistent with BOEM's *Draft Guidance Regarding the Use of a Project Design Envelope in a Construction and Operations Plan* (2018), this HREA considers a maximum design case layout. The layout represents the largest geographic footprint that could be occupied by visible structures and, therefore, the largest percentage of the visible horizon from shoreline locations that may be affected by the Projects. The maximum design case components are described below in Table 1.3-1.

Table 1.3-1. Key Elements of the PDE.

Element	Project Design Element	Total	Project 1	Project 2
WTGs	**Max. Number of WTGs**	200 (inclusive of the 31 WTGs in the Overlap Area)[a]	105-136	64-95
	WTG Layout	Grid layout with ENE/WSW rows and approximately N/S columns, consistent with the predominant flow of traffic		
	Max. rotor diameter	918.6 ft (280.0 m)		
	Max. tip height[b]	1,048.8 ft (319.7 m)		
OSSs	**Max. Number of OSSs**	10 small OSSs, or	5	5
		5 medium OSSs, or	2	3
		4 large OSSs	2	2
	OSS Layout	Positioned along the same ENE/WSW rows as WTGs		
	Min. Distance from Shore	Small OSS: 12 mi (19.3 km)		
		Medium and large OSS: 13.5 mi (21.7 km)		
WTG and OSS Foundations	**Foundation types**			
	Piled	Monopiles or piled jackets		
	Suction bucket	Mono-buckets, suction bucket jackets, or suction bucket tetrahedron bases [c]		
	Gravity	Gravity-base structures (GBS) or gravity-pad tetrahedron bases[c]		
	Max. pile diameter at seabed	Monopile: 49.2 ft (15.0 m)		

Element	Project Design Element	Total	Project 1	Project 2
	(for piled foundation types)	Piled jacket: 16.4 ft (5.0 m)		
Inter-Array and Inter-Link Cables	**Cable types and voltage**	Inter-array: 66–150 kV high voltage alternating current (HVAC)		
		Inter-link: 66–275 kV HVAC		
	Max. Total Cable Length	Inter-array: 547 mi (880 km)	273.5 mi (440 km)	273.5 mi (440 km)
		Inter-link: 37 mi (60 km)	18.6 mi (30 km)	18.6 mi (30 km)
	Target burial depth range	5 to 6.6 ft (1.5 to 2 m)		

1.3.2 Description of Offshore Components

At its closest point, the WTA is approximately 8.7 miles (mi) (14 kilometers [km]) from the New Jersey shoreline. The WTA will include an array of wind turbine generators (WTGs) and multiple offshore substations (OSSs). A meteorological (met) tower and/or meteorological and oceanographic (metocean) buoys may also be installed in the WTA. The WTA layout is designed to maximize offshore renewable wind energy production while minimizing effects on existing marine uses. The structures will be aligned in a uniform grid with multiple lines of orientation allowing straight transit through the WTA.

For the development of the viewshed analysis (see Section 2.2.1), all 200 foundation locations located within the WTA were analyzed using the largest WTGs included within the PDE in order to capture the maximum area of potential visibility. By evaluating the largest WTG currently under consideration, the theoretical WTG visibility increases for distant viewpoints, thereby providing a conservative assessment of visibility of the Projects.

Each WTG will consist of four major components: the foundation, the tower, the nacelle, and the rotor (Figure 1.3-2). The height of the tower, or "hub height" (height from the water's surface to the center of the rotor) will be approximately 574.2 feet (175 m) above mean sea level (AMSL). The nacelle sits atop the tower, and the rotor hub is mounted to the nacelle. Assuming a maximum rotor diameter of 918.6 feet (280 m), the total WTG height (i.e., height AMSL at the highest blade tip position) will be approximately 1046.6 feet (319 m).

Descriptions of each of the proposed WTG components are provided below:

Foundation: For the purpose of this HREA, it was assumed that each of the WTGs will be anchored to the sea floor using a monopile foundation secured with a single steel pile driven into the sea floor. However, the WTGs may utilize suction bucket or concrete gravity base structure (GBS) foundations. The monopile foundation is a tubular steel structure with a diameter of 39.4 feet (12 m) AMSL, upon which the tower

transition will be mounted. A suction bucket foundation option consists of a hollow tube embedded in the ocean floor which holds the structure in place through vacuum pressure. The GBS consists of steel-reinforced concrete sunk to the ocean floor and held in place by gravity. The foundation will extend above the water surface, and the exposed portion of the foundation will be yellow in color. A boat landing will be affixed to the foundation with a stairway connecting the landing to a railed deck at the base of the tower.

Tower: The towers used for the Projects are tapered hollow steel structures manufactured in three sections. The assembled towers have a diameter of approximately 32.8 feet (10 m) at the base and 27.9 feet (8.5 m) at the top. Two amber U.S. Coast Guard (USCG) warning lights will be mounted on the deck at the base of each tower. In accordance with the BOEM and Federal Aviation Administration (FAA) obstruction marking standards, the WTG will be painted a light grey (RAL 7035) to pure white (RAL 9010). Additionally, the tower will be equipped with a minimum of three low intensity red flashing lights (L-810) at the approximate mid-section of the tower, which will operate during nighttime hours only.

Nacelle: The main mechanical components of the WTG are housed in the nacelle. These components include the drive train, generator, and transformer. For the purpose of this study, the nacelle is assumed to have maximum dimensions of approximately 82 feet (25 m) long, 52.5 feet (16 m) wide, and 39.4 feet (12 m) in height. Two aviation warning lights are proposed to be located on top of the nacelle, in accordance with BOEM and FAA guidelines. These will be medium intensity, flashing red lights (L-864) that are operated only at night, and will be synchronized with the L-810 lights described above. The WTG nacelle will be the same color as the tower and will not include any obvious lettering, logos, or other exterior markings (FAA, 2018). Where applicable, the lighting parameters presented in the VIA follow the current BOEM guidance for the lighting and marking of WTGs in order to illustrate the potential nighttime visual impacts associated with the Projects. However, lighting requirements may change based on final BOEM/FAA recommendations.

Rotor: A rotor assembly is mounted on the nacelle to operate upwind of the tower. The rotor consists of three composite blades, each approximately 452.8 feet (138 m) in length. The three-bladed rotor assembly will be light grey to white in color (consistent with the tower) and will have a maximum diameter of 918.6 feet (280 m). The rotor blades are rotated along their axis, or "pitched," to enable them to operate efficiently at varying wind speeds. The rotor can spin at varying speeds, but typically rotates at a rate around 10 revolutions per minute.

The OSSs will be an enclosed structure measuring up to 295.3 feet long by 164 feet (90 m × 50 m) wide, with a maximum elevation of up to 131.2 feet (40 m) AMSL. For the purpose of this HREA, it is assumed that OSSs will be mounted on piled jacket foundations. However, the OSSs may utilize suction bucket or concrete GBS foundations. Diagram illustrating the appearance and dimensions of the WTG and OSS evaluated in this study are presented in Figure 1.3-2.

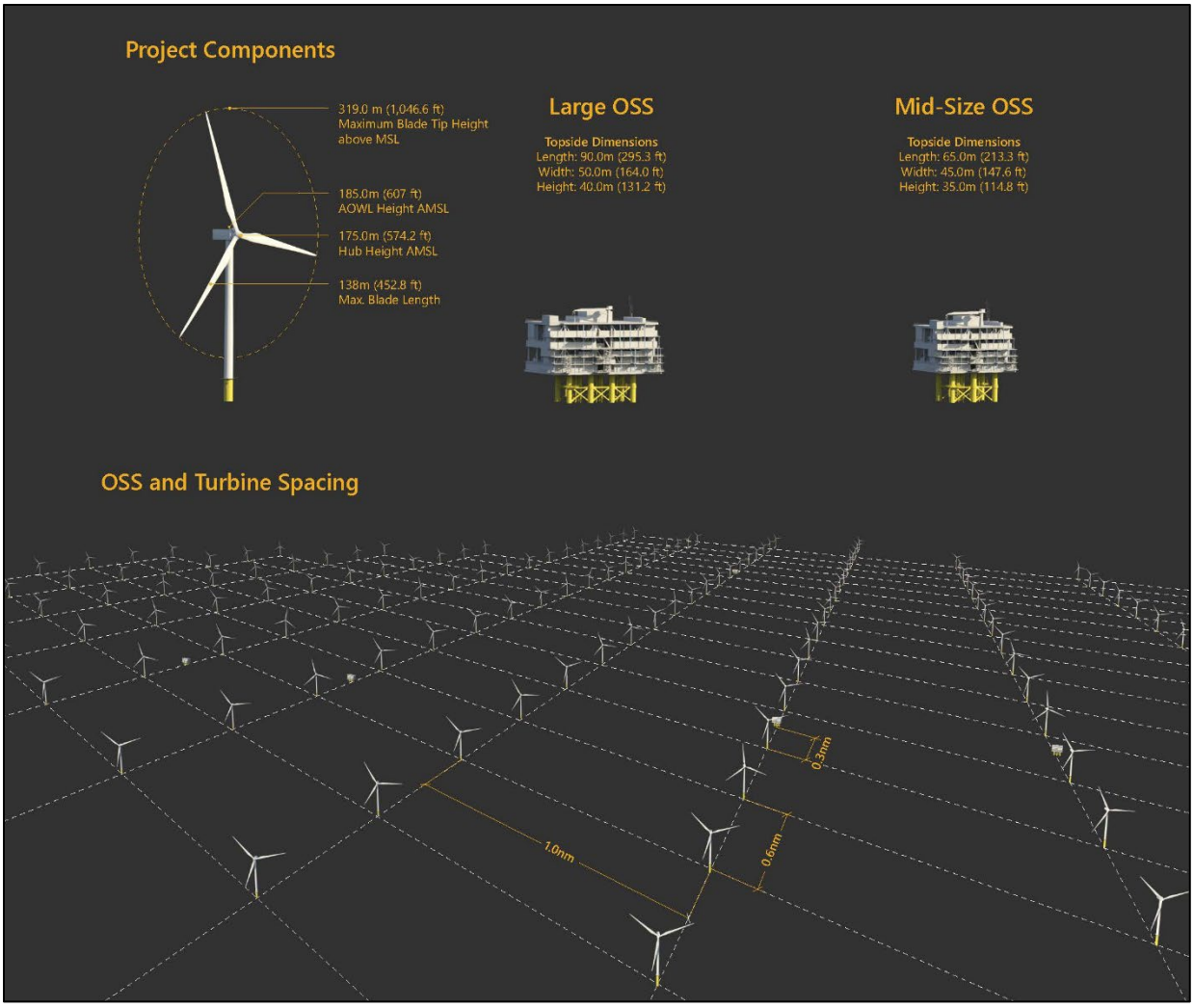


Figure 1.3-2. Computer Model of Offshore Platform and WTG Maximum Dimensions

Within the WTA, the WTGs and OSSs for Project 1 and Project 2 will be connected by two separate, electrically distinct systems of inter-array cables and/or inter-link cables. Energy from the OSSs will be delivered to shore by export cables that will travel within designed Export Cable Corridors (ECCs) from the WTA through federal and New Jersey state waters to one or two landfall sites on the New Jersey coastline. The Atlantic ECC extends from the western tip of the WTA to the Atlantic Landfall Site in Atlantic City, New Jersey. The Monmouth ECC extends from the eastern corner of the WTA, along the eastern edge of the Lease Area, to the Monmouth Landfall Site in Sea Girt, New Jersey. Both Projects 1 and 2 have the potential to use either ECC, and offshore export cables for each may also be co-located within an ECC.

At both the Monmouth and Atlantic Landfall Sites, horizontal directional drilling (HDD) will be employed to minimize impacts to the intertidal and nearshore habitats and ensure stable burial of the cables. From each landfall site, the onshore interconnection cables will travel underground primarily along existing roadways, utility rights-of-way (ROWs), and/or along bike paths to two new onshore substation and/or converter

station sites. From the onshore substations and/or converter stations, the onshore interconnection cables will continue to existing substations where the Projects will be connected into the electrical grid at the Cardiff Substation point of interconnection (POI) in Egg Harbor Township, New Jersey and/or the Larrabee Substation POI in Howell, New Jersey. While both Project 1 and Project 2 will be electrically distinct from one another, both Projects require the ability to interconnect at the two POIs to accommodate the maximum amount of electricity that could be generated by the Projects.

*1.3.3 **Description of Onshore Substation and Converter Facilities***

Each Project will be electrically distinct and will require the use of an onshore substation (if HVAC export cables are used) or a converter station (if HVDC export cables are used). The onshore substation may use either an air-insulated switchgear design or a gas-insulated switchgear design pending the substations' final detailed design. The substation design and specific equipment will depend on whether the onshore interconnection cables are HVAC or HVDC.

Onshore interconnection cables will be installed from the landfall sites underground primarily along existing roadways, utility ROWs, and/or along bike paths to the proposed onshore substation and/or converter station sites. Easements and ROW for private parcels will be acquired where necessary. From the proposed onshore substations and/or converter stations, the onshore interconnection cables will continue to the proposed POIs at the existing Larrabee Substation and existing Cardiff Substation for interconnection to the electrical grid. (See Section 4.0 Project Design and Construction Activities of the COP for additional detailed information.)

If the HVAC option is constructed, each onshore substation will include up to four power transformers, static synchronous compensators (STATCOMs), shunt reactors, service station transformers, harmonic filter banks, and a substation control building. The tallest component of the substation will be the lightning mast which will be up to 80 feet (24.4 m) tall. The substation will receive electricity produced by the offshore components of the Atlantic Shores Offshore Wind Projects via a buried onshore transmission cable to convert the incoming voltage to the voltage at the existing grid point of interconnect (POI).

If HVDC is selected, the equipment and facilities installed at the site could include a valve hall, service building, transformers, an AC yard and a DC area, a reactor yard, valve cooling towers, AC filters, and a storage building. At each onshore HVDC converter station, the current will be converted from DC to AC and the voltage will be stepped up or stepped down to match the electrical grid voltage.

Atlantic Shores has identified potential locations for these Facilities (see Figure 1.3-3), including the following:

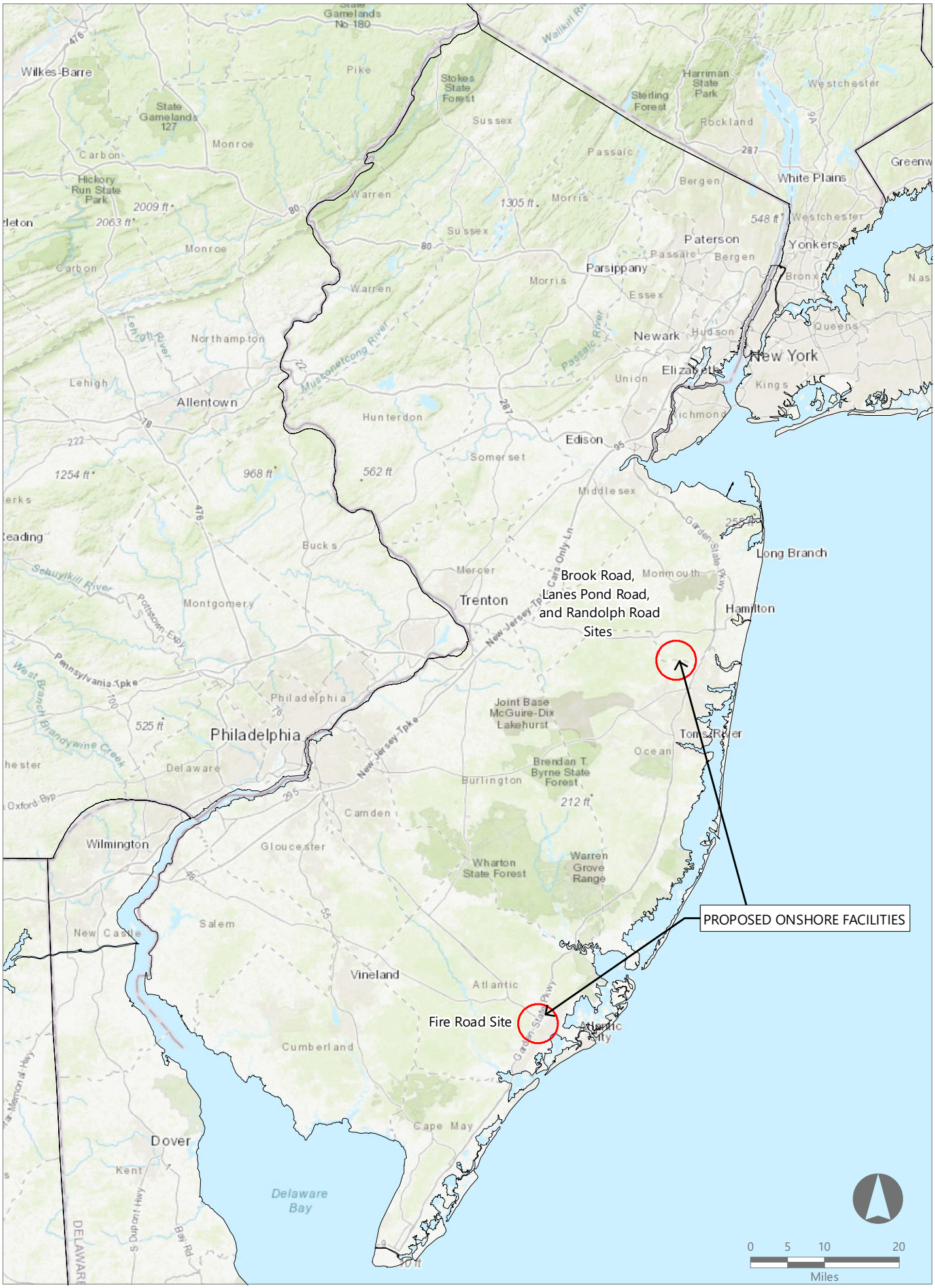
- Three potential locations for the proposed Larrabee Onshore Substation and/or Converter Station**:**[3]

[3] Atlantic Shores previous submitted a memorandum to BOEM in August 2022 with information on eight potential locations (Parcel Areas) for the proposed Larrabee Onshore Substation and/or Converter Station. Design decisions since

- The Lanes Pond Road Site (formerly Parcel Area 7 and the Binyan Site) is an approximately 16.3-acre (6.6-ha) parcel consisting of agricultural fields and wooded areas south of the intersection of Miller Road and Lanes Pond Road in Howell Township.
- The Brook Road Site (formerly Parcel Area 8 and the 100 Acre Site) is an approximately 99.4-acre (40.2-ha) combination of two parcels consisting primarily of forested uplands and some wetlands between Randolph Road and the Metedeconk River in Howell Township.
- The Randolph Road Site (formerly Arnold Steel Site) is an approximately 24.6-acre (9.97-ha) combination of three parcels consisting of a steel fabrication facility with associated laydown yard, offices, and parking, as well as forested wetlands surrounding Dicks Brook. The site is located north of Randolph Road to the northeast of the existing Larrabee POI in Howell Township.

- The Fire Road Site, located at approximately 3038 Fire Road, is situated on approximately 19.71 acres (7.98 ha) of currently wooded and overgrown lots in Egg Harbor Township.

[3] Atlantic Shores previous submitted a memorandum to BOEM in August 2022 with information on eight potential locations (Parcel Areas) for the proposed Larrabee Onshore Substation and/or Converter Station. Design decisions since the transmittal of that memorandum have resulted in the removal of six of the previously identified locations (Parcel Areas 1-6), and the addition of one location (Randolph Road/formerly Arnold Steel option). The designations of the two retained locations (Parcel Areas 7/Binyan and 8/100 Acre) have been updated to the Lanes Pond Road Site and Brook Road Site options.


Brook Road, Lanes Pond Road, and Randolph Road Sites
Fire Road Site
PROPOSED ONSHORE FACILITIES
Trenton
Philadelphia
Wilmington
Dover
Atlantic City
Long Branch
Toms River
Vineland
Camden
Gloucester
Salem
Cumberland
Cape May
Delaware Bay
Allentown
Edison
Newark
New York
Paterson
Parsippany
Wilkes-Barre
Joint Base McGuire-Dix Lakehurst
Wharton State Forest
Brendan T. Byrne State Forest
Warren Grove Range
0 5 10 20
Miles

1.3.3.1 Onshore Facility Siting

While both Project 1 and Project 2 will be electrically distinct from one another, the Projects require the ability to interconnect at two POIs to accommodate the maximum amount of electricity that could be generated by the Projects. Therefore, the Projects require two POIs and, consequently, two onshore interconnection cable routes and two landfall sites. To identify the locations of the Projects' onshore facilities, Atlantic Shores conducted an onshore routing assessment through an inter-related process that identified options for landfall sites and onshore interconnection cable routes to existing POIs. Identification of landfall sites and onshore interconnection cable routes in New Jersey is constrained by the density of development along the shorelines and built infrastructure inland. This siting must also account for the area required for horizontal directional drilling (HDD) staging areas as well as the physical dimensions required to install an underground transition vault that connects the export cables and the onshore interconnection cables.

1.3.3.2 Points of Interconnection

Five potential POIs within New Jersey (see Table 1.3-1) were identified based on their proximity to the coastline and their environmental and technical attributes (e.g., substation voltage, potential for expansion, upgrades required to accommodate the Projects' interconnection). These five POIs were used to evaluate potential onshore interconnection cable routes from the landfall sites to the POIs.

Table 1.3-2. Potential Points of Interconnection

Potential POIs	County
Larrabee	Monmouth
Cardiff	Atlantic
Lewis	Atlantic
Oyster Creek	Ocean
BL England	Cape May

1.3.3.3 Landfall Sites

Atlantic Shores conducted a siting evaluation of potential landfall sites that was largely based on parcel size, surrounding land use, and proximity to established linear development corridors (e.g., roadway and utility right-of-way [ROW]) that could serve as an onshore interconnection cable route. The specific siting criteria used to identify potential landfall sites included the following:

- **Technical considerations:**
    - The landfall sites require adequate open space onshore and in proximity to the coastline to accommodate the underground transition vaults and required HDD staging areas.
    - Landfall sites with offshore water depths that are deep enough to accommodate a cable laying vessel at the offshore HDD entrance/exit point are preferred.

- **Site characteristics:** The Projects require areas that are either undeveloped or consist of surface development (i.e., parking lots), without conflicting subsurface infrastructure.

- **Existing uses and sensitive areas:** Preferred landfall sites are not located proximate to residential communities and other sensitive receptors such as wildlife management areas, state parks, and other protected open spaces, which make up most of the open land along the New Jersey coast.

Based on these criteria, aerial photographs of the coastline were manually analyzed to determine candidate landfall sites. A total of 10 potential landfall sites were initially identified, as presented in Table 1.2-2 and shown on Figure 1.3-4.

Table 1.3-3. Landfall Sites

Landfall Site	Potential POI	Approximate Size	Latitude	Longitude
Wesley Lake	Larrabee	<1 acre (<0.004 [square kilometer] km^2)	40.218344	-74.004783
Monmouth	Larrabee, Oyster Creek	164 acres (0.66 km^2)	40.121597	-74.033785
Island Beach State Park	Larrabee, Oyster Creek	2,200 acres (8.9 km^2)	39.904109	-74.081359
Abbott Avenue	Larrabee, Oyster Creek	2 acres (0.008 km^2)	39.543841	-74.255182
Jeffrey Avenue	Larrabee, Oyster Creek	<1 acre (<0.004 km^2)	39.539932	-74.259552
Roosevelt Avenue	Larrabee, Oyster Creek	3 acres (0.01 km^2)	39.534552	-74.262262
North Atlantic City	Cardiff, Lewis	<1 acre (<0.004 km^2)	39.364038	-74.413007
Bader Airfield	Cardiff, Lewis	143 acres (0.58 km^2)	39.359757	-74.455573
Atlantic	Cardiff, Lewis	2 acres (0.008 km^2)	39.351952	-74.450009
Corson's Inlet	BL England	42 acres (0.17 km^2)	39.216859	-74.642799

1.3.3.4 Onshore Interconnection Routes

From each landfall site, Atlantic Shores conducted an iterative onshore interconnection cable routing assessment to each of the five POIs. The routing assessment was supported by aerial photography, publicly available Geographic Information Systems (GIS) environmental data, and baseline windshield surveys. Based on this routing analysis, 16 preliminary onshore interconnection cable routes were identified as shown in Figure 1.3-4.

A set of environmental and feasibility criteria were identified and weighted to establish and evaluate each onshore interconnection cable route. Route ranking was based on the following criteria:

- **Technical considerations:**
    - Shorter route lengths are preferred to reduce overall potential impacts and installation costs.
    - A lower number of hard route angles requiring a dead-end or corner transmission structure is preferred since hard route angles are more challenging and costly to construct.

- **Site characteristics:** Routes utilizing established ROWs for larger highways, state routes, existing transmission lines, or railroads are preferred because of the widespread development along the coast that prevents the establishment of a new ROW.

- **Existing uses and sensitive areas:**
    - Routes that avoid or minimize the distance of the onshore interconnection cable route in or within proximity to residential neighborhoods are preferred to reduce temporary, construction-related noise impacts.
    - Routes that minimize impacts to mapped threatened and endangered species habitat, tidelands, and wetlands are preferred.

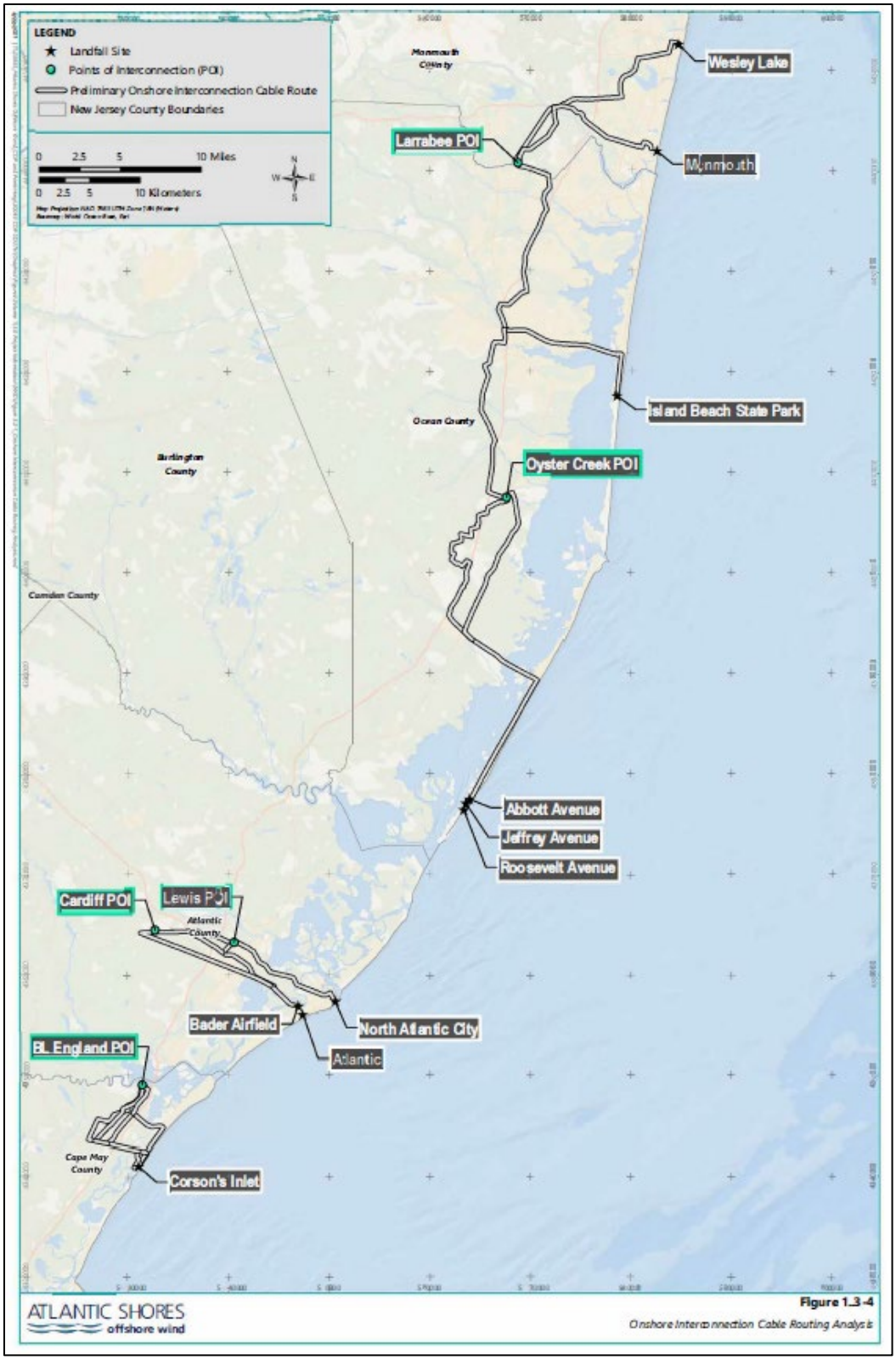


Figure 1.3-4. Onshore Interconnection Cable Routing Analysis

*1.3.4 **Description of the O&M Facility***

Once operational, the Projects will be supported by a new Operations and Maintenance Facility (O&M Facility) that Atlantic Shores is proposing to establish in Atlantic City, New Jersey. The O&M Facility will be used by Atlantic Shores as the primary location for O&M operations including material storage, day-to-day management of inspection and maintenance activities, vehicle parking, marine coordination, vessel docking, and dispatching of technicians. The O&M Facility will be designed to provide a safe and efficient operational flow of activities and equipment, and will consist of the following:

- office space, including a server/IT room to house the Project's IT infrastructure, and a control room for surveillance and coordination of offshore activities and Project operations;
- warehouse space, including full-height access for deliveries and equipment storage, a temperature and humidity-controlled electrical storage room, and a lifting facility; and
- harbor area and quayside, including but not limited to vessel mooring, unloading capabilities, a crane, berthing area, and emergency spill response equipment.

To establish the O&M Facility, Atlantic Shores intends to purchase and develop the 1.22-acre (0.49 ha) shoreside parcel at 801 North Maryland Avenue in Atlantic City, New Jersey (see Figure 1.3-5). The current owner of the site is listed as Amoco Oil Company in New Jersey Department of Environmental Protection (NJDEP) documents; it is presumed that the parcel was formerly used for oil storage, vessel docking, or other port activities. Construction of the O&M Facility is expected to involve the construction of a new building and a potential adjacent parking lot structure, repairs to any existing bulkheads/docks, installation of new dock facilities, and limited marine dredging. Alternatively, the O&M facility may utilize the parking lot located on California Avenue at the Atlantic Landfall site or other existing surface lots in Atlantic City supported by shuttles to and from the O&M facility.

Figure 1.3-5 Regional O&M Facility Location

2.0 ONSHORE FACILITIES

2.1 Larrabee Substation/Converter Station Locations

The onshore Larrabee Substation/Converter station is proposed to be located at one of three sites (as described above) in Howell Township, Monmouth County, New Jersey (see Figure 2.1-1). A historic context for the development to date within the area of these proposed locations is provided in Section 2.1.1. The existing location, visual setting, and history of each site is described in Sections 2.1.2, 2.1.3, and 2.1.4).

*2.1.1 **Historic Context***

Archives and repositories consulted during EDR's research for the Larrabee substation locations included the online digital collections of the Library of Congress, the State of New Jersey official website, David Rumsey Historical Map Collection, the Monmouth County Historic Inventory website, and the United States Geological Survey (USGS; see Section 6.0), and EDR's in-house collection of reference materials. Additionally, EDR reviewed the *History of Monmouth County, New Jersey* (Ellis, 1885), *History of New Jersey* (Meredith and Hood, 1921), the *Story of New Jersey's Civil Boundaries 1606-1968* (Snyder, 1969), for the historic context of the substation sites and PAPEs.

The proposed Larrabee Substation/Converter station will be located in Howell Township, Monmouth County, New Jersey. Monmouth County's 665 square miles (1,722 sq km) are situated along the Jersey Shore south of New York Bay, and are divided into 53 municipal subdivisions, including townships, cities, towns, boroughs, and villages.

New Jersey has been the site of human occupation for at least 12,000 years. At the time of European first contact, Atlantic County, like most of New Jersey, was occupied by the Lenni Lenape people. The local branch was the Unalachtigo Lenape, or the "people who live near the ocean" (Snyder, 1969). The first European voyagers included the Dutch, Finns, and Swedes, who founded competing trade settlements along the coast from present-day Cape May to Trenton. The Finnish and Swedish colonies, however, did not receive enough support from their respective home countries, and suffered from a lack of financial and human resources. In 1655, Peter Stuyvesant sent a fleet of Dutch ships to raid the Finnish and Swedish settlements, resulting in the Dutch taking over control of the area for New Netherland (Meredith and Hood, 1921; Snyder, 1969).

The New Jersey colonies came under English control when the Dutch were defeated in 1664. For the next century, emigres from Holland, Huguenots from France, and Scots, among others, made New Jersey their home. During this early colonial period, the colony was split into two halves, East and West Jersey. In 1686, the area comprising Egg Harbor Township was located in Gloucester County in West Jersey. Gloucester County split from Burlington County. In 1693, Great Egg Harbor Township, or simply Egg Harbor, was formed. During the American Revolution, southern New Jersey was the site of many battles. For four months in 1783, the City of Princeton served as the United States' capital (Meredith and Hood, 1921; Snyder, 1969).

English colonial officials formed Monmouth County in 1683 in the East Jersey province. English Quakers formed a significant share of early Euro-American settlers in the county, while bands of Lenni Lenape

continued to dwell in the region and maintained trading relationships with Europeans (Ellis, 1885; Salter, 1890). Colonizing Euro-Americans largely concentrated economic development of the region on clearing pitch pine timber for lumber and producing tar and turpentine for the maritime industry and subsequently developed cleared areas for agricultural and livestock grazing land in favorable soil conditions (Parsons, ed., 1928). The Euro-American population of Monmouth County remained relatively low compared to more intensively developed areas in the Hudson and Delaware River valleys but steadily grew into the nineteenth century with a focus on agriculture and light industry, such as grist and saw milling on suitable streams and rivers.

Howell Township was formed in 1801 from a subdivision of Shrewsbury Township. By 1832 the county had a modest commercial economy consisting of 17 mills, two distilleries, and a furnace (Ellis, 1885). The township was itself subdivided three times in the mid-nineteenth century. The production of pig iron was a major industry in Monmouth County, with over 500 workers employed at the Allaire Works on the Manansquan River between 1821 and 1846 (Morrison, 1950). In 1850, Ocean County was partitioned from Monmouth County (OCCHC, 2020). In 1853, a rail line was constructed which connected Camden with points in Monmouth County, and by 1860 rail lines had successfully linked most areas of the state (Morrison, 1950).

At the turn of the twentieth century, immigration from Europe increased dramatically, doubling the population of New Jersey, with many new arrivals settling in Monmouth County. While Wall and Howell Townships remained largely agricultural into the twentieth century, rail connections with larger urban areas and later improved roadways for automobiles in the twentieth century led to the growth of seaside communities in Monmouth County that were increasingly not connected with local farming or industry (Parsons, ed. 1928). Chemical and electronics manufacturing expanded significantly during the Second World War and afterwards (Monmouth County Planning, 2016). Monmouth and Ocean Counties followed the national trends of suburbanization, and after the construction of the Garden State Parkway, population and development expanded quickly. Today Monmouth County is one of the wealthiest counties in the United States, benefiting from its legacy of manufacturing, while Ocean County has remained the fastest growing county in New Jersey for much of the past 60 years (New Jersey, 2020; OCCHC, 2020).

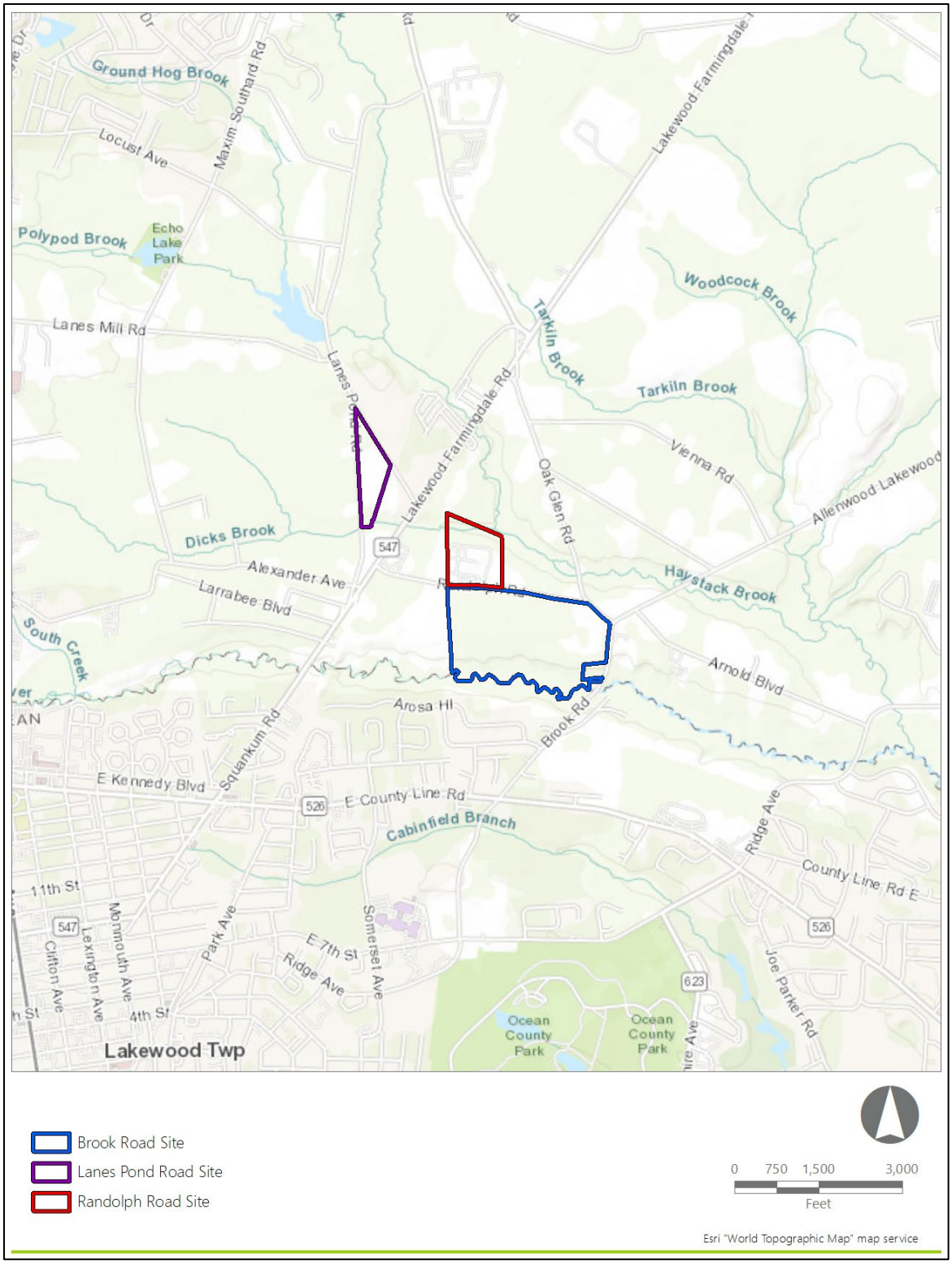


Figure 2.1-1. Proposed Larrabee Substation/Converter Station Locations.

*2.1.2 **The Lanes Pond Road Site***

2.1.2.1 Existing Conditions

The Lanes Pond Road Site, currently consisting of managed agricultural land and mixed forest, is an approximately 16.3-acre parcel north-northwest of the existing Larrabee substation. It is bordered by Lanes Pond Road to the west, Miller Road to the north, the New Jersey Southern rail corridor to the east, and a residence to the south.

Figure 2.1-2. Lanes Pond Road Site overview. The view from Lanes Pond Road showing the agricultural hay field. View to the east.

2.1.2.2 Visual Setting

The Lanes Pond Road Site is located in a predominantly forested area with light density residential, industrial and agricultural properties. A few residences are located to the west of the site along Lanes Pond Road, with dense forestation further west. To the north of the site are scattered residences and dense forest, as well as Lake Louise. Located to the east across Miller Road are residences, agricultural land, the New Jersey Southern Railroad Historic District, and two mobile home developments, as well dense forestation. Finally, to the south of the site are a few industrial properties, residences, and forest land.

2.1.2.3 History of the Site

The Lanes Pond Road Site has been vacant land since at least 1930, when historic aerials show the property as agricultural fields. Based on a review of historic aerials and maps, the northern portion of the property near the intersection of Lanes Pond and Miller Roads has been wooded since at least 1930, the middle portion of the property remains open fields, and the southern portion has been wooded since approximately 1972 (Historic Aerials, 2022).

The vacant land of the Lanes Pond Road Site is not associated with any event or person, nor does it have the potential to yield information important in history or prehistory; therefore, the property does not meet the criteria for listing in the NRHP.

*2.1.3 **The Randolph Road Site***

2.1.3.1 Existing Conditions

The Randolph Road Site is an approximately 24.7-acre parcel northeast of the existing Larrabee substation. The Randolph Road Site is made up of three parcels (Parcel ID's 1321_5_3 and 1321_5_2) and is currently a steel fabrication facility with associated laydown yard, offices, and parking, as well as forested wetlands surrounding Dicks Brook.

Figure 2.1-3. The Randolph Road Site overview. View of the steel fabricator facility from Randolph Road. View to the north.

2.1.3.2 Visual Setting

The Randolph Road site is located in a predominantly wooded area, with dense forestation to the immediate north, east, and south. A transmission line is located directly west of the site. Low density residential development is located to the northeast and a topsoil distributer, and a substation are located to the southwest. Low density residential development and scattered commercial development are located to the west.

Figure 2.1-4. View of the adjacent transmission line and the Material Transport Group, the topsoil distributer, on Randolph Road. View to the south.

2.1.3.3 History of the Site

The property was forest land from as early as 1930. Between 1947 and 1953 the land was cleared and divided into the present-day parcels. By 1956 two large structures, possibly barns, and a few smaller structures were constructed on the property. By 1979 the Randolph Road facility has been constructed, replacing one of the large structures. Multiple additions are added to the property between 1979 and 1995 (Historic Aerials, 2022).

The extant structures at the Randolph Road Site are associated with mid-twentieth-century industrial development in Howell Township, are not architecturally significant, nor are they associated with any event or person. The structures do not have the potential to yield information important in history or prehistory; therefore, the Randolph Road Site property does not meet the criteria for listing in the NRHP (see the Intensive-Level Architectural Survey Form in Appendix II-W Intensive-Level Architectural Survey Report).

*2.1.4 **The Brook Road Site***

2.1.4.1 Existing Conditions

The Brook Road Site, currently a vacant wooded lot, is an approximately 99.4-acre parcel. The Brook Road Site is made up of two parcels (Parcel ID's 1321_5_3and 1321_5_2) and includes mostly upland forested area with some areas of wetlands associated with the Metedeconk River.

Figure 2.1-5. Brook Road Site overview. The view of the wooded parcel from Randolph Road. View to the south.

2.1.4.2 Visual Setting

It is bordered by the existing Larrabee substation to the west, Randolph Road to the north, Oak Glen Road and Brook Road to the east, and the south by the North Branch Metedeconk River which makes up the Monmouth/Ocean County line. Randolph Road is located to the northwest across Randolph Road. A few buildings are located across Brook Road to the east of the property.

2.1.4.3 History of the Site

The property was used as agricultural fields as early as 1930. The associated farmhouse and outbuildings appear to be located across from each other on the east and west sides of Brook Road at the east edge of the Brook Road Site. A large oval area, likely once a horse track, is visible on past and present aerial imagery, with subdivided fields evident within the oval road and surrounding it. To the west of the horse track appears to be densely wooded as early as 1930, although there are some paths visible between the trees and orchards appear to have been planted to the east and southeast of the track. Trees are visible inside the track in the 1980s and forest has reclaimed the land by the early 2000s (Historic Aerials, 2022).

The vacant land of the Brook Road Site is not associated with any event or person, nor does it have the potential to yield information important in history or prehistory; therefore, the property does not meet the criteria for listing in the NRHP.

2.2 Fire Road Site

The proposed Cardiff Onshore Substation/Converter Station is proposed to be located at one site (as described above) in Egg Harbor Township, Atlantic County, New Jersey (see Figure 2.2-1). A historic context for the development to date within the area of this proposed location is provided in Section 2.2.1. The existing location, visual setting, and history of this site is described in Sections 2.2.2, 2.2.3, and 2.2.4).

*2.2.1 **Historic Context***

Archives and repositories consulted during EDR's research for the Fire Road Substation/Converter Station included the online digital collections of the Library of Congress, online collections of the Egg Harbor Branch Atlantic County Public Library, online resources of the Atlantic County Office of Cultural and Heritage Affairs, David Rumsey Historical Map Collection, and the United States Geological Survey (USGS; see Section 6.0), and EDR's in-house collection of reference materials. Additionally, EDR reviewed the *History of Atlantic City and County, New Jersey* (Hall, 1900), *History of New Jersey* (Meredith and Hood, 1921), the *Story of New Jersey's Civil Boundaries 1606-1968* (Snyder, 1969), and *Atlantic County Master Plan* (Atlantic County, 2000) for the historic context of the onshore component sites and PAPE.

The Fire Road Substation/Converter Station is located in the Egg Harbor Township, Atlantic County, New Jersey. Atlantic County's 671 square miles (1,738 sq km) are situated along the Atlantic Coastal Plain, roughly 100 miles (161 km) south of New York City and divided into 23 municipal subdivisions, including townships, cities, towns, boroughs, and villages.

Atlantic County was formed in 1837 from the townships of Egg Harbor, Galloway, Hamilton, and Weymouth (Snyder, 1969). The first deed sold in Atlantic County was in the Township of Egg Harbor in the same year and included 40 acres (16.2 ha) of land to Samuel Saunders. An economy around the production of iron arose in the early nineteenth century in the vicinity of Egg Harbor City, but the ore supply was exhausted by the turn of the century (Hall, 1900). In addition, Cape May and Atlantic City emerged as major resort attractions on the Atlantic Ocean during the nineteenth century. By the turn of the twentieth century, most of the residents in Atlantic County lived in Atlantic City (Morrison, 1950; Atlantic County, 2000). During the

early-twentieth century, Egg Harbor became center for the manufacturing of cut glass and clothing, but remained primarily agricultural (Meredith and Hood, 1921).

During the first half of the twentieth century, Atlantic County, specifically Atlantic City, continued to grow and was firmly established as the main population center by the 1920s. However, during the second half of the twentieth century, the population shifted from Atlantic City to the suburban county areas, following the nation-wide trends. In the mid-twentieth century, large tracts of farmland in Egg Harbor and in the vicinity of the Vacant Commercial Center Site were purchased and developed into residential communities, with commercial buildings being constructed along the main roadways. In 1976, New Jersey passed an act which legalized gambling in Atlantic City. Consequently, fears of an economic boom and the associated increase in development that might follow in the suburban areas prompted various environmental conservation laws to protect the natural resources from improper development and suburban sprawl. At the beginning of the twenty-first century, Atlantic County was undergoing gentrification in some populated areas where the transition from multi-family apartment housing to new single-family dwellings occurred. In the suburban areas, senior housing developments were being constructed in response to the area's aging population (Atlantic County, 2000).

*2.2.2 **Existing Conditions***

The Fire Road Substation/Converter Station is proposed to be located on a vacant wooded lot on Fire Road (County Road 651) in Egg Harbor Township, Atlantic County, New Jersey. This site is approximately 20-acres and bordered to the north by Fire Road (County Road 651), commercial development to the west, Hingston Avenue to the south, and by a mix of apartment complexes, single-family residences, and a hotel to the east (see Figure 2.2-1). The southern portion of the lot has a cleared drive with curbing and storm drains, suggesting the parcel was prepared for residential and/or commercial development at one time. Based on a review of aerial photos the access drive was constructed between 1984 and 1995 (Historic Aerials, 2022).

Figure 2.2-1 Proposed Fire Road Substation/Converter Station Location.

Figure 2.2-2 Overview of the cleared entranceway to the Fire Road Site off of Hingston Avenue. Note the curb, photo left. View to the northwest.

Figure 2.2-3 Overview of the wooded areas of the Fire Road Site from Hingston Avenue. View to the northwest.

2.2.3 Visual Setting

The proposed Fire Road Substation/Converter Station is located on a vacant wooded lot in a densely developed section of Egg Harbor Township. The area surrounding the proposed location consists of commercial and high-density residential development with a mix of freestanding commercial structures and condominium housing immediately adjacent to the parcel. Additionally, areas of dense forestation, salt marsh, industrial development, the inland bay, recreational spaces, low and medium density residential development, and major transportation corridors including the Garden State Parkway and the Atlantic City Expressway are present within the Fire Road PAPE.

2.2.4 History of the Site

Historical aerial photography from 1931 depicts the proposed Fire Road Site as wooded land between what appear to be cleared agricultural tracts. Fire Road, Tilton Road, Old Egg Harbor Road, and Hingston Road are all visible in the same general location as their present-day configuration. Imagery from 1951 and 1957 shows little to no change. By 1963, imagery shows partial clearing through the center of the Fire Road Site, extending from the back yard of one of the residential lots along Old Egg Harbor Road to the east. By 1970 the cleared area is partially overgrown, and fully reclaimed by forest by 1984. Some of the agricultural land surrounding the Fire Road Site has also been left fallow and started to become vegetated at this time, while

an apartment complex (still extant today) has been constructed immediately to the east. In 1995, imagery shows significant disturbance and clearing in the southern portion of the Fire Road Site, another clearing in the center of the area, and a series of cleared pathways throughout (Historic Aerials, 2022). From 2002 till present day imagery shows the gradual regrowth of the cleared areas, as well as a retention pond/basin in the south of the area that corresponds to the dugout area identified in lidar data.

In brief, the historical map review demonstrates that location of the Fire Road Site remained undeveloped wooded and/or agricultural land until approximately 1995, at which time the location underwent some clearing and earthmoving, likely as preparation for additional development that never occurred.

The vacant land of the Fire Road Site is not associated with any event or person, nor does it have the potential to yield information important in history or prehistory; therefore, the property does not meet the criteria for listing in the NRHP.

3.0 PRELIMINARY AREA OF POTENTIAL EFFECTS (PAPE)

The Area of Potential Effects (APE) for a project is determined by BOEM through consultation with the relevant State Historic Preservation Offices (SHPOs), in this case NJHPO, and Tribal Historic Preservation Offices (THPOs). BOEM, as the lead federal agency, considers visual effects caused by the construction/operation of the onshore and offshore facilities to be direct effects. Therefore, this HREA presents a PAPE for visual effects as formal consultation under Section 106 of the NHPA has not yet been initiated.[4]

3.1 Methodology to Determine the Visual PAPEs

The Onshore Facilities Visual PAPEs includes all areas within 1 mile (1.6 km) of each of the proposed Onshore Facilities with potential visibility (based on a viewshed analysis) of the substation and/or converter station sites. Based on the relatively low-profile of the proposed onshore components, EDR defined a 1-mile (1.6 km) radius around the property boundary associated with the proposed onshore components within which to assess potential visual effects based on a viewshed analysis (the PAPE). A 1-mile (1.6 km) area for each of these Facilities is considered the maximum limit within which aboveground historic properties could be subject to adverse visual effects given size of the proposed Facilities and the screening provided by existing topography, building/structures and/or adjacent developed areas, and vegetation. While visibility beyond 1 mile (1.6 km) is possible, the nature and degree of potential visual impacts will be minimal beyond 1 mile (1.6 km) due to the density of existing modern development and infrastructure located within the PAPEs.

The combined HVAC/HVDC option will include both an HVAC substation and an HVAC switchyard. This combined option represents the maximum design scenario for the proposed Facilities. Therefore, this HREA will assess potential visual effects to aboveground historic resources at each location using a PAPE representing the potential visibility of the offshore substation and converter station associated with the combined HVAC/HVDC option based on viewshed analyses.

To determine the geographic areas of potential visibility (and therefore potential visual effects) of the onshore substation/converter station options, EDR conducted a lidar-based viewshed analysis. This analysis considers the height of proposed aboveground components of the Facilities as anticipated by preliminary site plan designs along with a digital surface model (DSM) representing existing ground-level elevations, vegetation, and structures present in the VSA. The DSM was derived from 2014 and 2018 United States Geological Survey (USGS) lidar data with a horizontal resolution of one meter. A GIS analysis of this data was conducted to determine whether a direct line of sight would be available from ground level vantage points to the tallest proposed substation components. If a direct line of sight is available, the position (1-meter grid cell) is coded as visible. The viewshed calculations used sample points with an assigned height of 80 feet (24.4 m) to represent the lightning masts (the tallest proposed structures). Sample points were

[4] To facilitate BOEM's Section 106 review, Atlantic Shores submitted a memorandum to BOEM in September 2021 which describes and illustrates the PAPEs for all onshore and offshore components the Projects as described above, to which BOEM concurred (EDR, 2021).

spaced 200 feet (61 m) apart in a grid pattern across each of the Sites. The sample point locations were determined using a preliminary site plan illustrating the proposed Larrabee Substation/Converter Station and Fire Road Substation/Converter Station layouts. The resulting geographic areas of potential visibility are referred to as the Onshore Facilities Visual PAPEs.

To assure an accurate assessment of potential visibility of the Larrabee onshore Substation/Converter Station, a few modifications were made to the lidar-derived DSM prior to analysis. Transmission lines and road-side utility lines that are included in the lidar data are mis-represented in the DSM as solid walls/screening features. In order to correct this inaccuracy, DSM elevation values within transmission line corridors and within 50 ft (15 m) of road centerlines were replaced with DEM bare earth elevation values. Additionally, all areas within the proposed limit of disturbance were modeled with bare earth elevation to reflect potential site clearing/demolition in these locations. This modified DSM was then used as a base layer for the viewshed analysis. Once the viewshed analysis was completed, a conditional statement was used within ArcGIS® to set the Substation/Converter Station visibility to zero in locations where the DSM elevation exceeded the bare earth elevation by 6 feet or more, indicating the presence of vegetation or structures that exceed viewer height. This was done for two reasons: 1) in locations where trees or structures are present in the DSM, the viewshed would reflect visibility from the vantage point of standing on the tree top or building roof, which is not the intent of this analysis; and 2) to reflect the fact that ground-level vantage points within buildings or areas of vegetation exceeding 6 ft (1.8 m) in height generally will be screened from views of the proposed Substation/Converter Station locations.

The viewshed analysis results suggest that approximately 1.2% of the 1-mile viewshed buffer could have visibility of some portion of the Substation/Converter Station if the Lanes Pond Road Site is selected, 1.7% if the Randolph Road Site is selected, 5.2% if the Brook Road Site is selected, and 3.0% if the Fire Road Site is selected (i.e., the Substation/Converter Station would be entirely screened from 98.8%, 98.3%, 94.8%, or 97.0% of the 1-mile viewshed buffer, respectively, depending which site is selected). Additionally, a significant portion of Substation/Converter Station visibility occurs within the boundaries of the site boundaries themselves. Approximately 0.2% (13.4 acres) of areas with visibility are located within the Lanes Pond Road Site itself. Similarly, approximately 46.5% (99.2 acres) of areas with visibility are located within the Brook Road Site, 34.8% (24.3 acres) of areas with visibility are located within the Randolph Road Site, and 17.5% of areas (13.4 acres) with potential visibility are located within the Fire Road Site. In other words, when visibility within the respective Substation/Converter Station Sites are excluded from the results, visibility of the Substation/Converter station is indicated in approximately 0.8% of the viewshed buffer if the Lanes Pond Road Site is selected, 2.8% of the viewshed buffer if the Brook Road Site is selected, 1.1% of the viewshed buffer if the Randolph Road Site is selected, and 2.5% if the Fire Road Site is selected.

3.1.1 ***Lanes Pond Road Site***

If the Lanes Pond Road Site is selected, potential visibility of the Substation/Converter Station is indicated to be primarily limited to locations within the near-foreground distance zone along roadway corridors and open yards with limited vegetation. However, potential visibility is anticipated to be more limited than indicated by the viewshed analysis due to dense roadway vegetation and the conservative roadside clearing assumptions used in the viewshed analysis (see Section 3.1). Full visibility of the Substation/Converter

Station is anticipated to occur within some parcels directly adjacent to the Lanes Pond Road Site, particularly within parcels set close to the roadway that lack dense vegetative screening. More limited visibility is anticipated from adjacent properties where structures have greater setbacks and more roadside vegetation is present. In these instances, potential views of the Substation/Converter Station will be more limited and primarily available along driveways oriented toward the Site and through breaks in the vegetation.

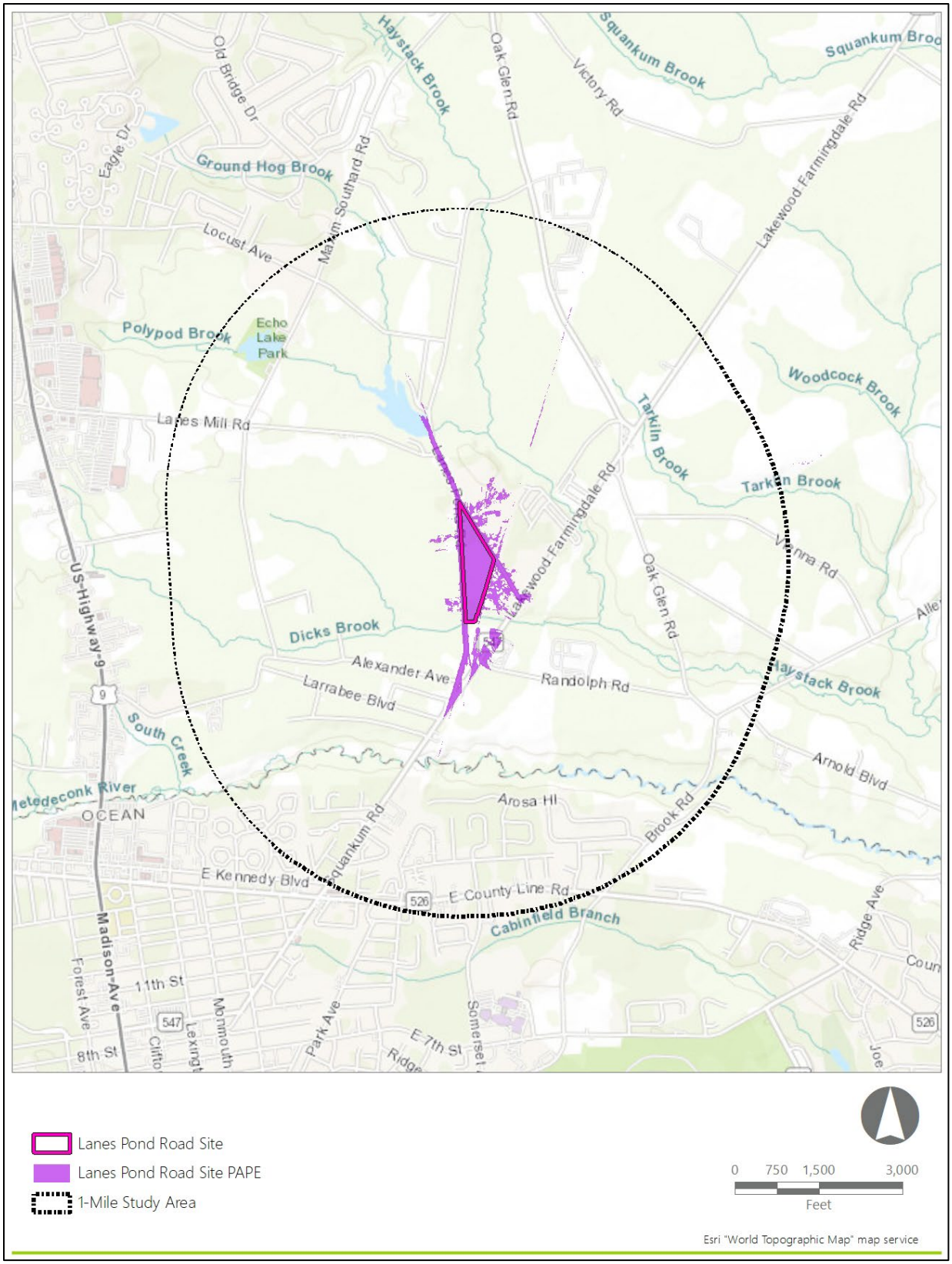


Figure 3.1-1. Lanes Pond Road Site PAPE

3.1.2 ***Brook Road Site***

If the Brook Road Site is selected, the largest area of potential visibility of Substation/Converter Station occurs directly adjacent to the Site. These areas include industrial sites north of the Brook Road Site, a mulching operation to the west, mixed residential and industrial sites to the east, and the existing Larrabee substation and utility ROWs oriented toward the Brook Road Site. Potential visibility in these areas is largely the result of proximity to the Brook Road Site and minimal vegetative screening. West of the Brook Road Site, potential visibility is also indicated along Randolph Road through the crossing at the New Jersey Southern Railroad corridor, the existing utility ROW as it crosses Squankum Road and the New Jersey Southern Railroad, along Alexander Avenue, and Bry Avenue. While potential visibility in these locations extends into a residential area, it is likely that visibility of the Substation/Converter Station would be limited to the upper portions of the lightning masts due to existing vegetative screening.

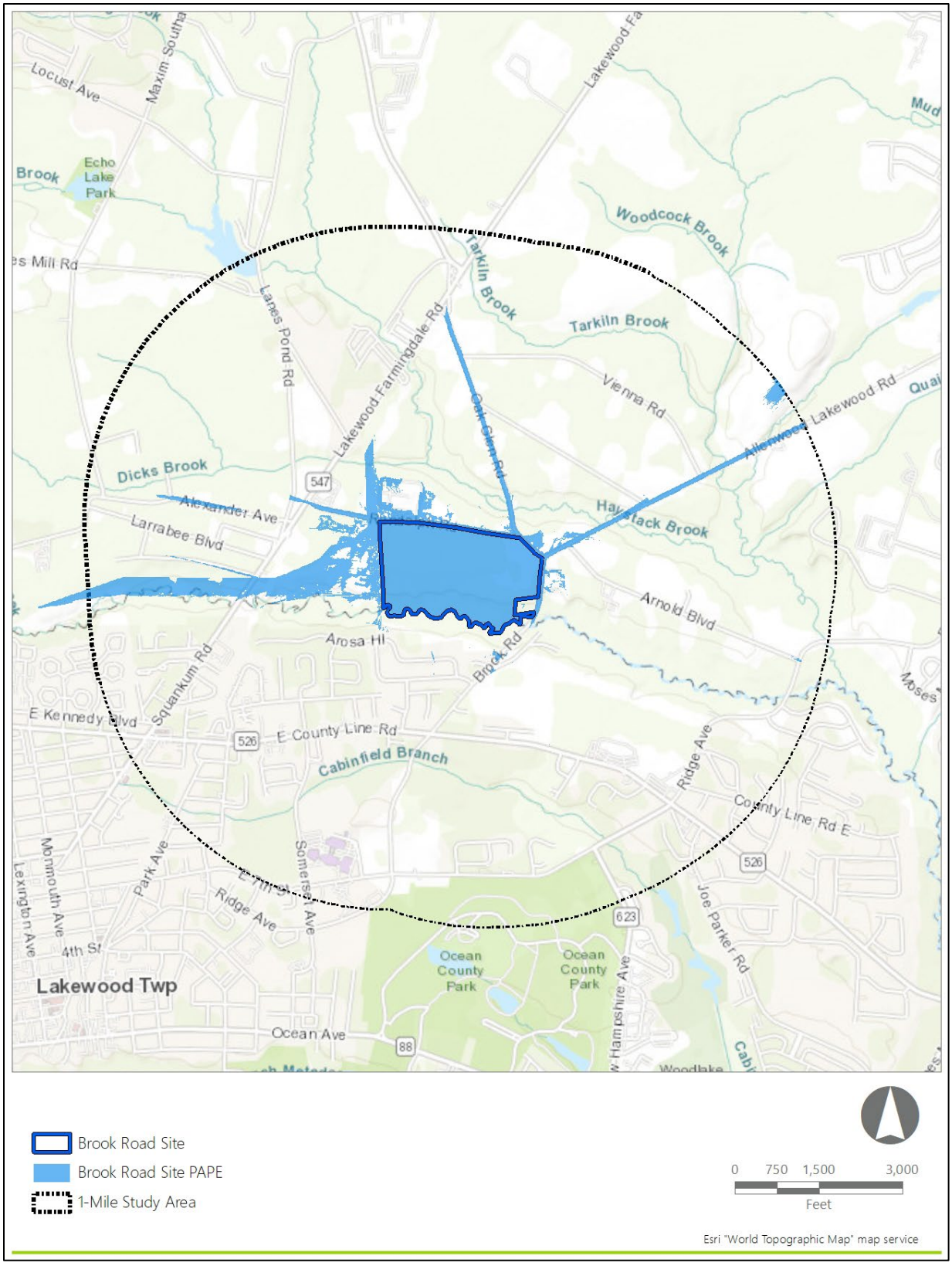


Figure 3.1-2. Brook Road Site PAPE

3.1.3 ***Randolph Road Site***

Potential visibility of the Substation/Converter Station when considering the Randolph Road Site is concentrated in areas directly adjacent to the Site. West of the Site these areas primarily include a mulching operation, the existing Larrabee substation, and utility ROWs oriented toward the Randolph Road Site. Visibility is also indicated to extend east and west of the Site on Randolph Road and abutting mixed use residential locations. While views of the Substation/Converter Station are anticipated on Randolph Road directly adjacent to the Site, visibility beyond the immediately adjacent areas will be significantly more limited due to intervening vegetation. Less concentrated areas of visibility are indicated in the near-foreground distance zone on Oak Glen Road, Lanes Pond Road, and the open agricultural field identified throughout this report as the Lanes Pond Road Site. Potential visibility from these locations would be limited by intervening vegetation, and, in the case of Lanes Pond Road and the agricultural field, views would also include the existing utility infrastructure.

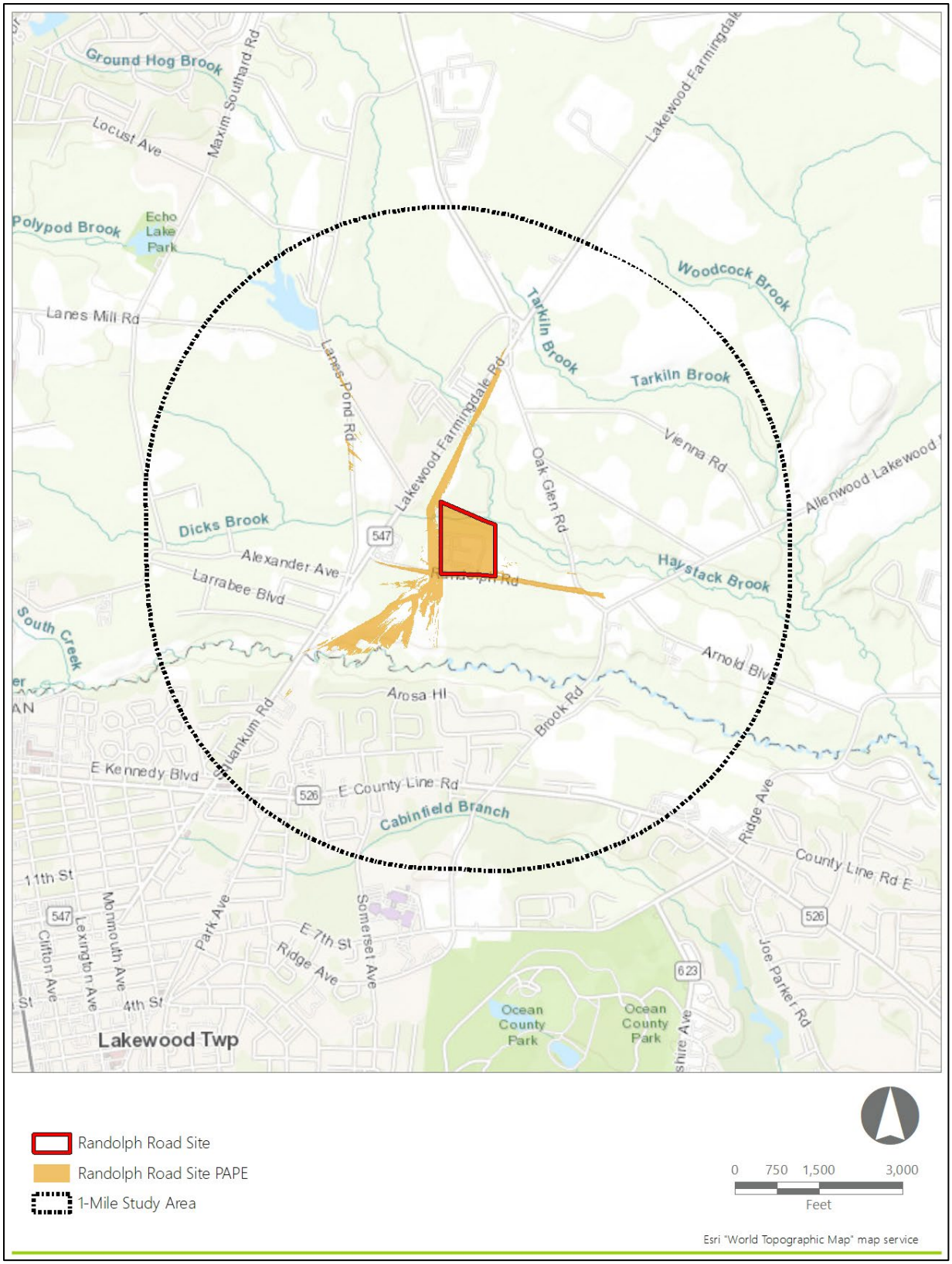


Figure 3.1-3. Randolph Road Site PAPE

*3.1.4 **Fire Road Site***

Locations beyond the Fire Road Site indicated to have visibility are most concentrated within the near-foreground and are typically limited to locations with open expanses of asphalt and such as open parking lots at commercial sites and roadway corridors such as Tilton Road, Hingston Avenue, and Fire Road (County Road 651). Potential visibility is also indicated in some residential areas such as the Harbor Crossing manufactured home park located north-northwest of the Facility Site, and the Tilton Club Condominiums located south of the Fire Road Site. Considering the residential communities, some degree of visibility can be attributed to the conservative roadside clearing assumptions used in the viewshed (see Section 3.1). Actual visibility is likely to be limited to a small portion of the roadway corridors and portions of open residential yards within this development. On the north side of the Fire Road Site a vegetative buffer will remain in place and the visibility indicated by the viewshed analysis in the Harbor Crossing community appears to coincide with the proposed Facility access road to the Fire Road Site. As such, it is anticipated that views from within the community will be discrete in nature and will only include a portion of the Facility framed by the cleared access road. On the southern portions of the Fire Road Site, where it is assumed that a vegetative buffer will not remain due to site constraint, it is likely that the Tilton Road Condominiums will have open, minimally obstructed views into the site, as indicated by the viewshed analysis. Smaller areas of discrete visibility also occur along the Garden State Parkway and Old Egg Harbor Road and in locations with limited vegetation, such as the Tilton Road Golf Range Pro Shop and the Penn Jersey Building Materials site. In addition, less concentrated areas of potential visibility are indicated where roads, parking areas, and open lawns with minimal vegetative screening allow for views of the Fire Road Substation/Converter Station above the treetops or between the existing vegetative buffers.

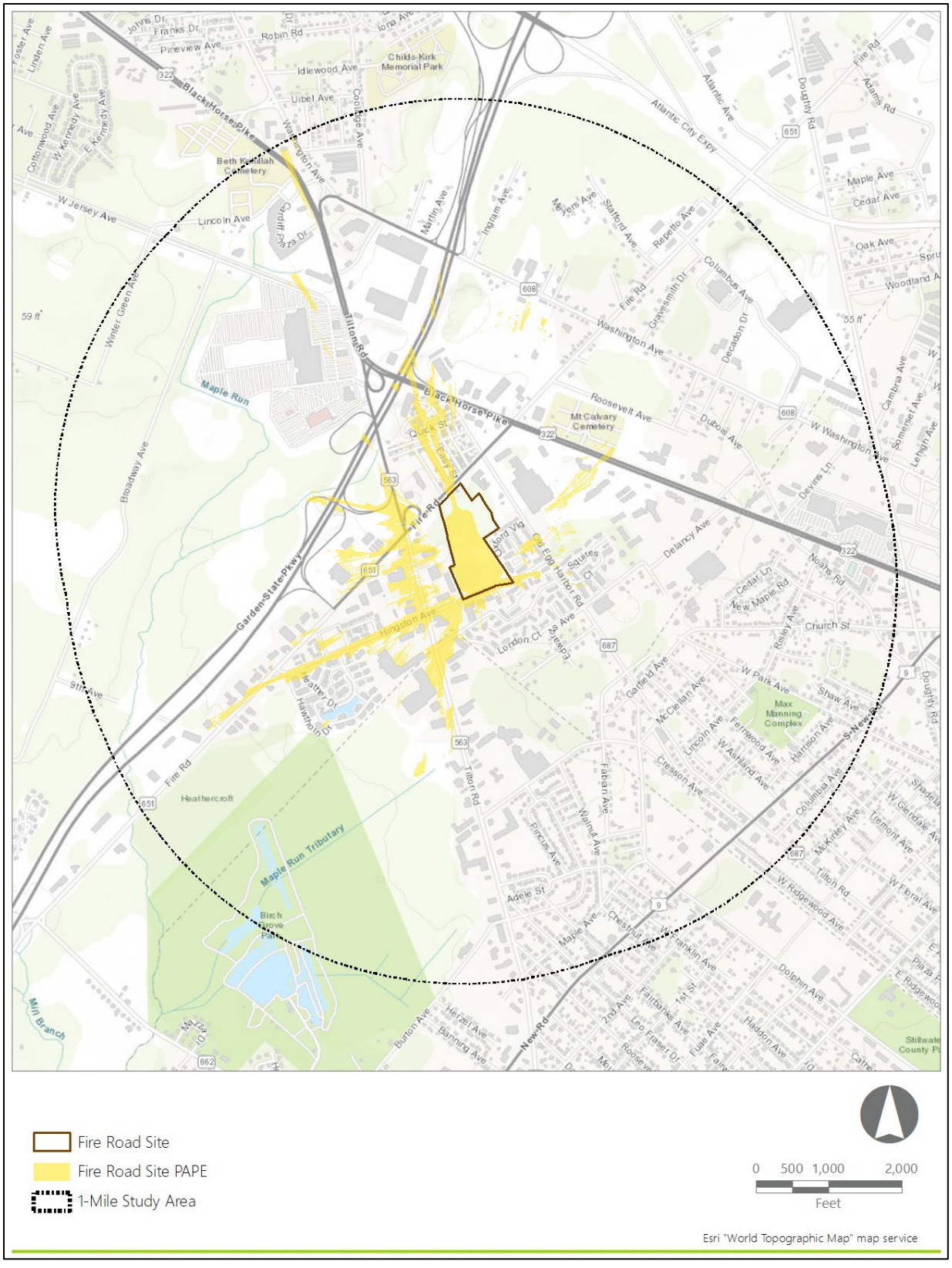


Figure 3.1-4. Fire Road Site PAPE

4.0 HISTORIC RESOURCES SURVEY

In order to identify aboveground historic properties that could be affected by the Onshore Facilities, EDR prepared an intensive-level architectural survey in accordance with the NJHPO's *Guidelines for Architectural Survey* (NJHPO, 2020). The purpose of this survey is to document aboveground historic properties located within the proposed Onshore Facilities Visual PAPEs. The *Intensive-Level Architectural Survey, Atlantic Shores Offshore Wind* (EDR, 2023) is included as COP Appendix II-W, and the results of the survey in relation to the Onshore Facilities Visual PAPEs are summarized below.

4.1 Methodology to Identify Aboveground Historic Properties

As noted in Section 1.1, an aboveground historic property is defined per 36 CFR 800.16 as any property that has been listed in, or determined eligible for listing in, the NRHP, or designated an NHL. To identify aboveground historic properties that could be affected by the Projects, EDR first conducted a desktop review of the records of state and federal agencies, GIS databases, previous cultural resources surveys, local inventories, and historical collections to develop an inventory of previously identified aboveground historic properties within the PAPEs for the Projects.

Resources reviewed as part of this process included:

- The New Jersey Department of Environmental Protection (NJDEP) Look Up Cultural Resources Yourself (LUCY) website (NJDEP, 2021a)
- The Atlantic County Division of Parks and Recreation Historical Sites webpage (Atlantic County, 2021)
- The Monmouth County Parks System (MCPS) Monmouth County Historic Sites Inventory (MCHSI) website (MCPS, 2021)
- Multiple Property Documentation Forms for relevant aboveground historic properties located within the PAPE
- Aboveground historic properties identified as part of studies conducted by BOEM in 2012 in order to prepare a GIS database of known aboveground cultural resources/historic properties that could be affected by the introduction of offshore energy facilities along the east coast of the United States[5]

[5] Klein, J.I., M.D. Harris, W.M. Tankersley, R. Meyer, G.C. Smith, and W.J. Chadwick. 2012. Evaluation of visual impact on cultural resources/historic properties: North Atlantic, Mid-Atlantic, South Atlantic, and Florida Straits. Volume I: Technical report of findings. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study BOEM 2012-006. 24 pp., and Klein, J.I., M.D. Harris, W.M. Tankersley, R. Meyer, G.C. Smith, and W.J. Chadwick. 2012. Evaluation of visual impact on cultural resources/historic properties: North Atlantic, Mid-Atlantic, South Atlantic, and Florida Straits. Volume II: Appendices. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study BOEM 2012-007. 10 appendices.

- Municipal-level (i.e., county, town, city, or village) historian's offices and associated online databases
- Privately run local and regional historical societies.

In addition, EDR identified any potentially previously unreported aboveground historic properties (i.e., properties that appear to be at least 40 years of age or more that have not been previously documented or included in existing historic databases) located within the PAPEs. This process included the following:

- Identification of all structures within the PAPEs using the Microsoft United States Building Footprint database
- Obtaining open parcel data and assessors' information to determine the age of the structures (if available) in order to identify all structures within the PAPEs that are 40 years of age or greater
- Completion of a desktop analysis, including a review of recent aerial photographs, street views, and pictometry images (where available) to determine whether each structure is extant, or no longer meets NRHP eligibility criteria (i.e., has lost integrity or is clearly not historically significant)
- Delineation of potential historic districts for neighborhoods or clusters of properties consisting of similar style and construction dates, or otherwise linked by historic significance to review as part of field surveys.

A viewshed analysis was completed to identify parcels located within each of the individual site PAPEs (i.e., within areas where there is a theoretical potential for visibility of the Facilities). This analysis was conducted by first using the Spatial Join extension in the ESRI ArcGIS® software to determine which parcels within the 1-mile (1.6 km) radius of the Facilities. Next, redundant points were eliminated. The parcels located within the PAPEs may be considered to have "potential visibility." In other words, the Spatial Join function used by ESRI ArcGIS® determined that some portion of each property was found to intersect with the viewshed. To provide a more accurately defined list of properties that may have potential views of the Projects, a further level of assessment of the parcels within each PAPE was completed, which was intended to focus the assessment of potential visual effects on aboveground historic properties to those that would have more precise assessment of potential visibility.

A review of the sources identified above include only aboveground historic properties within the PAPEs of the Facilities. Aboveground historic properties within the PAPEs of the Operations and Maintenance Facility and the Wind Turbine Area are discussed in separate reports (Appendix II-N2 and Appendix II-O). This HREA did not include any previously identified archaeological sites located within the PAPEs. Analyses of the Projects' potential to effect archaeological resources are described in the MARA (Appendix II-Q to the COP) and Terrestrial Archaeological Resources Assessment (Appendix II-P1 to the COP) reports.

In addition, a meeting was held with NJHPO on July 25, 2022, to discuss the above methodology for the identification of potential aboveground historic properties and to identify aboveground historic structures

or typologies of particular state-wide interest that may not have been identified as part of the desktop analysis.

4.1.1 Desktop and Field Review

Based on the above analysis, 66 parcels were identified within the PAPEs. EDR's SOI-qualified architectural historians initiated a desktop review of these parcels and removed properties from further consideration that were determined to be no longer extant (see Attachment B). This included a review of recent aerial photography, review of the LUCY database, and other resources mentioned above. Two resources were determined to be no longer extant. Screening provided by vegetation, structures, or other objects, especially from inland and developed areas, affect the potential visibility of the Facilities from a given property within the Onshore Facilities Visual PAPEs.

EDR further refined the list of potential aboveground historic properties based on field observations as well as previous experience assessing visibility and potential impacts of proposed facilities. The list of parcels was further refined to include all previously determined NRHP-eligible or NRHP-listed properties within the PAPE, and all parcels with 5 % or more visibility of the proposed Onshore Facilities. Potential visibility of less than 5% within parcels is commonly associated with small, narrow "spires" of potential visibility (as indicated by the viewshed analysis), where the majority of views of the proposed Onshore Facilities would be substantially screened. In these cases and in this heavily developed commercial environment, it is anticipated that this degree of minimal, partial visibility of the proposed Onshore Facilities will have negligible effects to the existing visual settings of parcels within the Onshore Facilities Visual PAPEs. As a result of this process,18 parcels were identified within the 1-mile (1.6 km) viewshed buffer and Onshore Facilities Visual PAPEs for further desktop review and analysis. A list of these properties is included in Attachment A.

After the completion of the desktop review, field surveys were then conducted in November 2022 and February 2023. Survey fieldwork included systematically driving public roads within the Onshore Facilities Visual PAPEs to document the integrity and setting of previously identified aboveground historic properties (e.g., NRHP-listed and NRHP-eligible properties). This included photographs of the building(s) (and property) and field notes describing the style, physical characteristics and materials (e.g., number of stories, plan, external siding, roof, foundation, and sash), condition, physical integrity, and other noteworthy characteristics for each resource. Other known criteria aside from architecture which may contribute to a property's NRHP eligibility were also noted and evaluated.

4.1.2 NRHP Eligibility Criteria

Historically significant properties are defined herein to include buildings, districts, objects, structures and/or sites that have been listed in the NRHP, as well as those properties that are formally determined are eligible for listing in the NRHP. Criteria set forth by the National Park Service for evaluating historic properties (36 CFR 60.4) state that a historic building, district, object, structure, or site is significant (i.e., eligible for listing in the NRHP) if the property conveys (CFR, 2022; NPS, 1990):

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

(A) that are associated with events that have made a significant contribution to the broad patterns of our history; or

(B) that are associated with the lives of persons significant in our past; or

(C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(D) that have yielded, or may be likely to yield, information important in prehistory or history.

EDR's evaluation of potential aboveground historic properties within the PAPEs focused on the seven aspects of integrity (location, setting, design, materials, workmanship, feeling, and association) to assess the potential architectural significance of each property. If deemed appropriate, individual buildings located within thematically related clusters were documented collectively as historic districts. For previously identified aboveground historic properties within each PAPE whose NRHP eligibility had not formally been determined, EDR took updated photographs and collected field notes to inform a recommendation of potential NRHP eligibility. Where significant changes to materials or form were found to have occurred, or if a property was found to no longer be standing, an updated recommendation of NRHP eligibility was recorded. All potential aboveground historic properties included in the surveys were photographed and assessed from public rights-of-way and were evaluated based solely on the visible exterior of the structures.

4.2 Aboveground Historic Properties Within the PAPEs

Following the desktop review and field survey described in Section 4.1, three of the parcels reviewed are considered aboveground historic properties. For the purposes of this HREA, historic districts were considered as a single aboveground historic property rather than to each of the contributing properties, as not all contributing properties within historic districts are located in the PAPEs. Two aboveground historic properties were identified in the Fire Road Site PAPE and one aboveground historic property was identified in all three Larrabee Substation/Converter Station Locations: the Lanes Pond Road Site, the Randolph Road, and the Brook Road Site PAPEs. Details on the eligibility recommendations on each parcel can be found in the *Intensive-Level Architectural Survey, Atlantic Shores Offshore Wind* (COP Appendix II-W).

Table 4.2-1. Aboveground Historic Properties in the Larrabee Substation/Converter Stations PAPEs

Survey ID	Property Name	Address	Municipality	NRHP Status
9262	New Jersey Southern Railroad Historic District	N/A	Multiple	NRHP-Eligible (NJ HPO-Determined)

Table 4.2-2. Aboveground Historic Properties in the Fire Road Site PAPE

Survey ID	Property Name	Address	Municipality	NRHP Status
9281	West Jersey and Atlantic Railroad Historic District	N/A	Hamilton Township and Egg Harbor Township	NRHP-Eligible (NJ HPO-Determined)
9336	Garden State Parkway Historic District	Garden State Parkway	Bergen, Passaic, Essex, Union, Middlesex, Monmouth, Ocean, Atlantic and Cape May	NRHP-Eligible (NJ HPO-Determined)

5.0 EFFECTS OF THE FACILITIES ON ABOVEGROUND HISTORIC PROPERTIES

As stated in Section 1.2, Section 106 of the NHPA requires federal agencies to consider the effects of their actions on historic properties that are listed or meet the eligibility criteria for listing in the NRHP. Per NHPA Section 106, 36 CFR § 800.5 (a)(1), the assessment of adverse effects on an historic property requires the following steps:

> *(a) Apply criteria of adverse effect. In consultation with the SHPO/THPO and any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to identified historic properties, the agency official shall apply the criteria of adverse effect to historic properties within the area of potential effects. The agency official shall consider any views concerning such effects which have been provided by consulting parties and the public* (CFR, 2022).

The Federal Regulations entitled "Protection of Historic Resources" (36 CFR 800) include in Section 800.5(2) a discussion of potential adverse effects on historic properties. The criteria for determining whether a project ("undertaking") may have an adverse effect on historic properties are as follows:

> *(vii) Criteria of adverse effect. An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative* (CFR, 2022).

Per NHPA Section 106, 36 CFR § 800.5 (a)(2)(i-vii), adverse effects on historic properties include, but are not limited to:

> *(i) Physical destruction of or damage to all or part of the property;*
>
> *(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's standards for the treatment of historic properties (36 CFR Part 68) and applicable guidelines;*
>
> *(iii) Removal of the property from its historic location;*
>
> *(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;*
>
> *(v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;*

(vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance (CFR, 2022).

The Atlantic Shores Offshore Wind Projects will not have any direct or physical effect on aboveground historic properties but have the potential to have visual effects on aboveground historic properties. The Onshore Facilities' potential effect on a given aboveground historic property would be a change (for instance, resulting from the introduction of new visual elements, such as substation lighting masts) in the aboveground historic property's setting. As it pertains to aboveground historic properties, *setting* is defined as "the physical environment of a historic property" and is one of seven aspects of a property's *integrity*, which refers to the "ability of a property to convey its significance" (NPS, 1990:44-45). The other aspects of integrity include location, design, materials, workmanship, feeling, and association (NPS, 1990).

The NJAC 7:4-1.3 defines "encroachment" as follows:

"Encroachment" means the adverse effect upon any district, site, building, structure or object included in the New Jersey Register resulting from the undertaking of a project by the State, a county, municipality or an agency or instrumentality thereof, as determined by application of the Criteria for Determining Whether an Undertaking Constitutes an Encroachment set forth in N.J.A.C. 7:4-7.4 and the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 C.F.R. 68) and "Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings" (guidelines issued by the National Park Service, incorporated herein by reference) and available from the Historic Preservation Office, PO Box 420, Trenton, New Jersey 08625-0420) or from the Historic Preservation Office website (www.state.nj.us/dep/hpo) or from the National Park Service website (www.nps.gov) or subsequent amendments thereto adopted by the Secretary of the United States Department of the Interior and the National Park Service (NJAC, 2015).

Adverse effects on aboveground historic properties (i.e., encroachment) are further defined in NJAC 7:4-7.4, *Criteria for determining whether an undertaking constitutes an encroachment or will damage or destroy the historic property*, which states:

(a) An undertaking will have an adverse effect and therefore constitute an encroachment when the effect of the undertaking on a property listed in the New Jersey Register may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Encroachments include, but are not limited to:

1. *Physical destruction, damage, or alteration of all or part of the registered property;*

2. *Isolation of the registered property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the New Jersey Register;*

3. *Introduction of visual, audible, or atmospheric elements that are out of character with the registered property or alter its setting; and*

4. *Acquisition, transfer, sale, lease, easement on, or an agreement or other permission allowing use of a registered property* (NJAC, 2015).

The potential effect of the onshore components on the visual setting associated with aboveground historic properties is highly variable and is dependent on a number of factors including the distance to the onshore components, the height of the visible components relative to nearby existing structures, the extent to which the components are screened or partially screened by buildings, trees, or other objects, and the amount of existing visual clutter and/or modern intrusions in the view. It is also worth noting that visual setting may or may not be an important factor contributing to a given property's historical significance.

5.1 Considerations for Visual Effects on Aboveground Historic Properties

No aboveground historic properties will be directly affected by the construction of the substations/converter stations. The potential effect resulting from the introduction of the substations/converter stations into the visual setting for an aboveground historic property is dependent on several factors, including:

- those characteristics of an aboveground historic property that qualify it for listing in the NRHP (i.e., the rationale for the property's historical significance)
- whether or not setting contributes to the historical significance of the property
- the distance separating the aboveground historic property from the substations/converter stations
- the magnitude and nature of visual changes to existing views introduced by the proposed facilities, in terms of visual dominance, orientation of potential views, and density of new visual elements

The first three of these factors are related to the nature of each aboveground historic property and the relationship between each aboveground historic property and the surrounding physical environment. The last relates to the physical parameters of the proposed facilities and their spatial relationships to historic properties with potential views of the facilities. As further detailed in Section 2.1, an "adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of an aboveground historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity" (CFR, 2022).

*5.1.1 **Potential Effects of the Proposed Onshore Facilities***

The primary adverse effect on aboveground historic properties resulting from the Projects would be consistent with 36 CFR § 800.5(a)(2)(v), "Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features." The potential effect resulting from the introduction of the Facilities into the visual setting for any historic or architecturally significant property is dependent on several factors, including distance, visual dominance, orientation of views, viewer context and activity, and the types and density of modern features in the existing view (such as buildings/residences, overhead electrical transmission lines, cellular communications towers, billboards, highways, and silos).

The potential effect of the onshore components on a given aboveground historic property would be a change in the property's visual setting resulting from the introduction of new structures/buildings. As it pertains to aboveground historic properties, *setting* is defined as "the physical environment of a historic property" and is one of seven aspects of a property's *integrity*, which refers to the "ability of a property to convey its significance" (NPS, 1990). The other aspects of integrity include location, design, materials, workmanship, feeling, and association (NPS, 1990).

The HREA considers the Facilities' potential effects on a given aboveground historic property – i.e., potential changes resulting from the introduction of the facilities in the aboveground historic property's historic setting. As it pertains to aboveground historic properties, *setting* is defined as "the physical environment of a historic property" and is one of seven aspects of a property's *integrity*, which refers to the "ability of a property to convey its significance" (NPS, 1990:44-45). The other aspects of integrity include location, design, materials, workmanship, feeling, and association (NPS, 1990).

In addition, to the potential visual effects of the Facilities on aboveground historic properties are potential physical effects on historic properties, as discussed above in Section 3.2. As stated above in Section 2.0, no aboveground historic properties were identified on the proposed substation/converter station parcels; therefore, the proposed Onshore Facilities will have no direct effects on aboveground historic properties. A complete effects assessment on aboveground historic properties in the Onshore Facilities Visual PAPEs is included in Section 5.3.

*5.1.2 **Potential Effects from the Onshore Interconnection Cable Corridor***

As stated in Section 1.3.2, onshore interconnection cables will be installed from the landfall sites underground primarily along existing roadways, utility ROWs, and/or along bike paths to the proposed onshore substation and/or converter station sites (See Section 4.0 Project Design and Construction Activities

of the COP for additional detailed information). It is currently anticipated that the installation of the onshore interconnection cable will take place over a nine-to-twelve-month period in 2024-2025[6].

The proposed onshore interconnection cables are proposed to be buried underground and may involve only temporary visual effects associated with the construction and decommissioning phases of the Projects. Installation of the onshore interconnection cables will generally require excavation of a trench within a temporary disturbance corridor and will be installed using specialty trenchless techniques (i.e., HDD, pipe jacking, and/or jack-and-bore) that avoid surface disturbance to avoid impacts to aboveground properties. The cables will be installed primarily along existing roadways, utility ROWs, and/or along bike paths to a depth consistent with local utility standards. Work occurring within these ROWs will be substantially similar to municipal utilities maintenance/installation, and no operational impacts are anticipated to aboveground historic properties. No adverse visual or physical effects are anticipated by the installation of the onshore interconnection cables (see the TARA [Appendix II-P1 of the COP] for additional details regarding potential physical effects.

5.2 Summary of Historic Resources Effects Assessment

As stated above in Section 4.0, three aboveground historic properties were identified in the Onshore Facilities PAPEs: the New Jersey Southern Railroad Historic District, the Garden State Parkway Historic District, and the West Jersey and Atlantic Railroad, all of which have been determined eligible for listing in the NRHP by the NJHPO.

[6] These durations assume continuous installation without consideration for seasonal pauses or weather delays; anticipated seasonal pauses are reflected in the expected timeframe. The expected timeframe is indicative of the most probable duration for each activity; the timeframe could shift and/or extend depending on the start of fabrication, fabrication methods, and installation methods selected.

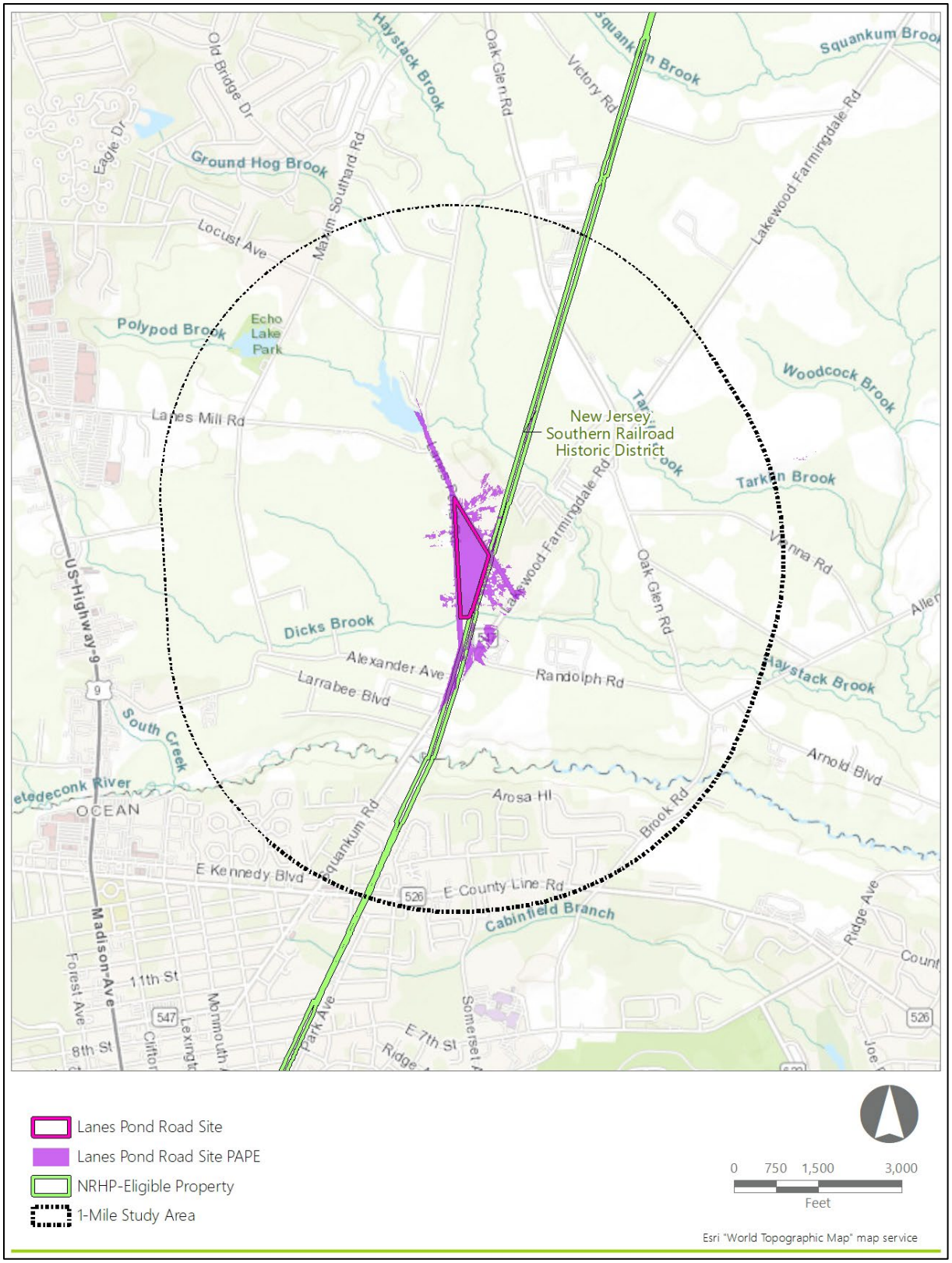


Figure 5.2-1. Aboveground Historic Properties – Lanes Pond Road Site

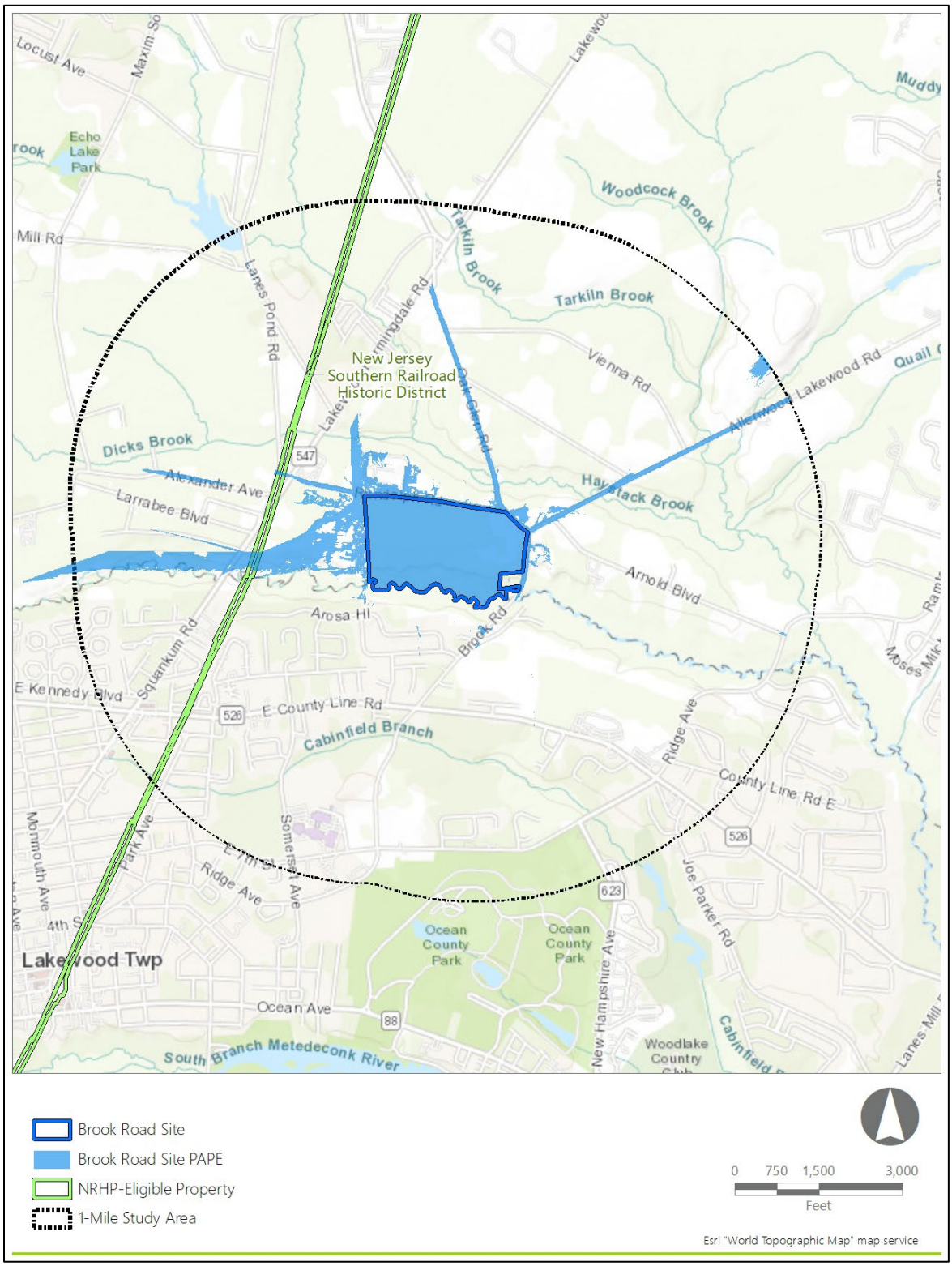


Figure 5.2-2. Aboveground Historic Properties – Brook Road Site

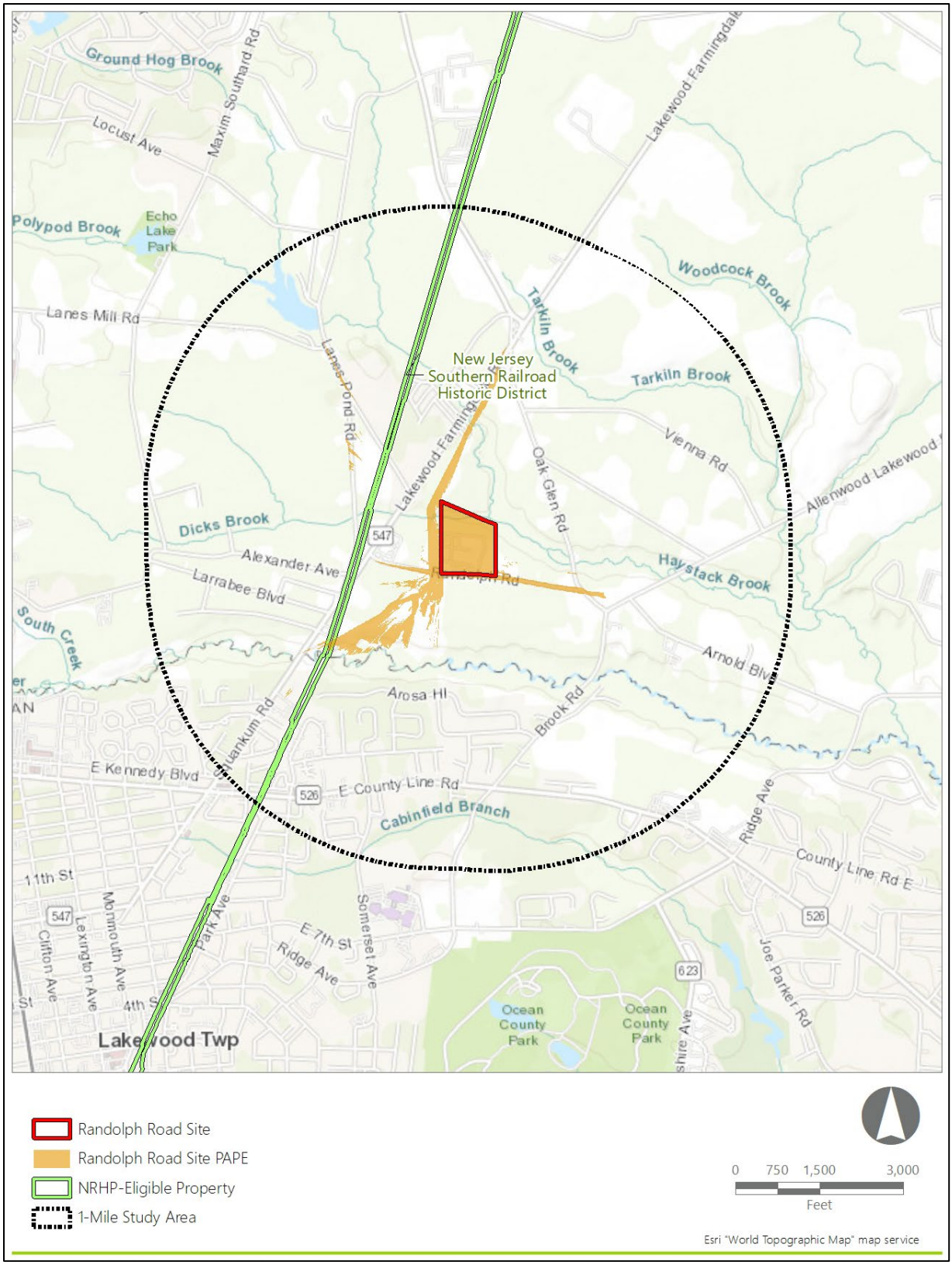


Figure 5.2-3. Aboveground Historic Properties – Randolph Road Site

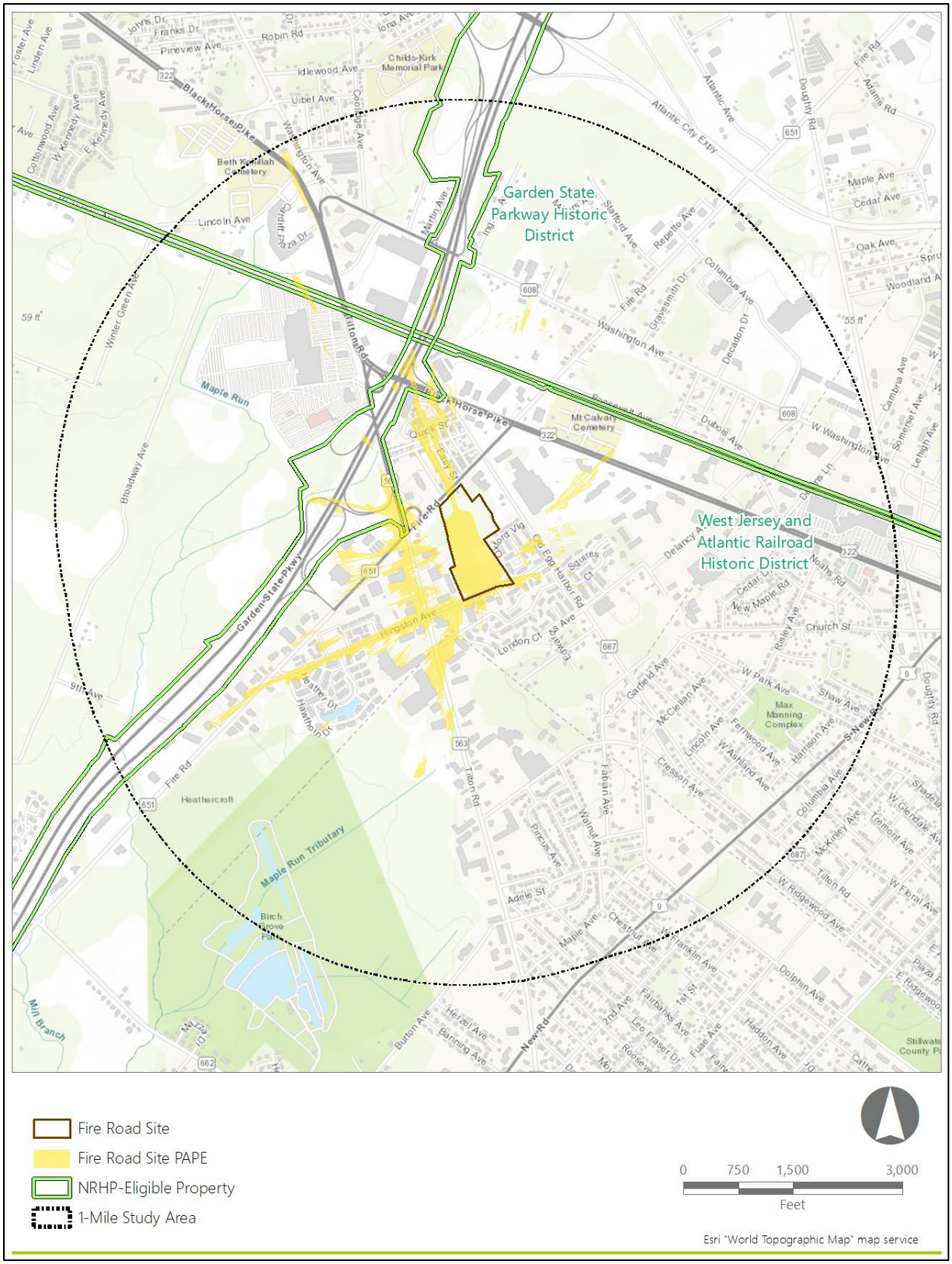


Figure 5.2-4. Aboveground Historic Properties – Fire Road Site

5.2.1 The New Jersey Southern Railroad Historic District

The New Jersey Southern Railroad Historic District was constructed as part of the Raritan & Delaware Bay Railroad which was chartered in 1854 (New Jersey Court of Chancery, 1863). The railroad was significant as a means to transport freight from the bay to inland locations. The line is also significant for its association with Jay Gould and James Fisk, who financed the rail line (Historic American Engineering Record, 2022). The district, and contributing elements, are eligible under Criterion A, B, and C for their association with the development of the surrounding area, the progress of transportation in the mid-to-late nineteenth century, and the association with Jay Gould and James Fisk.

Due to the linear nature of the rail line, the proposed facilities are anticipated to be visible from very small portions of the New Jersey Southern Railroad Historic District:

Table 5.2-1. Potential Visibility Within the New Jersey Southern Railroad Historic District

Proposed Location	Percent of PAPEs Visible Within Property Boundary
Lanes Pond Road Site	1.35
Brook Road Site	0.31
Randolph Road Site	0.11

In addition, the significance of the property is not derived from its setting, but its association with transportation, the development of New Jersey, and Jay Gould and James Fisk; therefore, the proposed Larrabee Substation/Converter Station Locations will not adversely affect the New Jersey Southern Railroad Historic District.

Figure 5.2-5. New Jersey Southern Railroad Historic District

5.2.2 Garden State Parkway Historic District

The Garden State Parkway Historic District is a transportation corridor which runs 173 miles from Cape May in southern New Jersey north to the New York border. The Parkway was constructed between 1946 and 1957 (NJTA, 2023). The district was determined eligible for the NRHP by NJHPO and is significant under Criterion A and C for its association with transportation and the development of New Jersey as well as its architecture.

Although the proposed Fire Road Site location is anticipated to be visible from 0.06 % of the Garden State Parkway Historic District, due to the nature of the historic district as a linear transportation corridor, and the fact its significance is associated with the development of transportation in New Jersey, the proposed Fire Road Site will not adversely affect the Garden State Parkway Historic District.

Figure 5.2-6. Garden State Parkway Historic District

5.2.3 The West Jersey and Atlantic Railroad Historic District

The West Jersey and Atlantic Railroad company constructed the ralline connecting Atlantic City and Newfield in 1880 (NPS, 2005). The railroad is significant under NRHP Criteria A, C, and D for its association with the history of transportation in New Jersey.

Due to the linear nature of the West Jersey and Atlantic Railroad, the Fire Road Site is anticipated to be visible from 0.13 % of the historic district. Although the proposed Fire Road location will be visible from a small portion of the West Jersey and Atlantic Railroad, the significance of the rail line is not derived from its setting, but its association with transportation in New Jersey; therefore, the proposed substation/converter station will not adversely affect the West Jersey and Atlantic Railroad.

Figure 5.2-7. The West Jersey and Atlantic Railroad Historic District

5.3 Potential Effects Assessment

Construction of the Onshore Facilities will not require the demolition or physical alteration of any historic buildings or other aboveground historic properties. No direct physical effects to aboveground historic properties will occur as a result of the Onshore Facilities. The Onshore Facilities' effect on a given aboveground historic property would be a change (resulting from the introduction of new structures) in the property's visual setting. The Onshore Facilities would introduce new structures into the landscape. However, at a maximum height of 80 feet (lighting masts only), the proposed Onshore Facilities will not be out of scale or character with the existing types of development currently present in the vicinity. As such, it is anticipated that the Onshore Facilities will not result in visual impacts to aboveground historic properties.

In addition, an assessment of potential impacts to aboveground historic properties from lighting, noise and traffic is included in Section 6.1.2 of Volume II of the COP prepared for the Projects, and summarized herein:

- **Light:** Operational lighting will be required for the safe and secure operation of the onshore substations and/or converter stations. However, the lights associated with the Onshore Facilities will have minimal visibility from aboveground historic properties. Due to the developed nature of the Onshore Facilities PAPE, the lights are not expected to contribute significantly to the sky glow resulting from existing light sources present in each of the respective areas. Therefore, it is not anticipated that the lighting from the Onshore facilities would have an effect on aboveground historic properties. Plantings to create screening will be installed at the onshore substation and/or converter station sites to the maximum extent practicable to reduce potential visibility and thereby avoid impacts from lighting from onshore facilities during O&M.

- **Noise:** The design of onshore facilities will depend on whether high voltage alternating current (HVAC), high voltage direct current (HVDC), or a combination of both HVAC and HVDC onshore interconnection cables are constructed. It is anticipated that the HVDC design would have generally lesser sound impacts on the surrounding community than HVAC technology. Therefore, only the HVAC onshore substation design was evaluated to provide the most conservative assessment of potential noise impacts. The onshore interconnection cables will not generate noise during operations since the cable will be buried beneath existing roads or within other public and utility rights-of-way (ROWs). The onshore substations and/or converter stations will be designed to comply with the NJDEP sound level limits. Screening will be implemented at the onshore substation and/or converter station sites to the maximum extent practicable, to reduce potential noise impacts from onshore facilities during O&M. The anticipated levels of noise generated by onshore facilities are described in greater detail in an Onshore Noise Report, (see COP Appendix II-U). Operational noise associated with the Onshore Facilities is not anticipated to have an impact to aboveground historic properties.

- **Traffic**: Operations and maintenance of the onshore substations and/or converter stations will be unmanned during routine operations and will be inspected regularly based on manufacturer-recommended schedules. Personnel will be on site as necessary for any maintenance or repairs. It is likely that no noticeable increase over existing traffic patterns will occur. The onshore

interconnection cable route will have no regular maintenance unless there is a failure or malfunction requiring exposure and repair of the cable. If any unforeseen maintenance is required, impacts to traffic from potential traffic detours might occur. Traffic during the operation of the Projects is not anticipated to affect the integrity of the historic setting of aboveground historic properties for the duration of the Projects' activity.

Per the results of the HREA described herein, the Onshore Facilities are not anticipated to result in adverse effects on any aboveground historic properties. No further surveys or evaluations with respect to aboveground historic properties are recommended in association with the proposed substation locations.

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ATTACHMENT A.

ABOVEGROUND HISTORIC PROPERTIES AND PROPERTIES IN PAPES WITH 5 PERCENT OR GREATER VISIBILITY

Attachment A - Aboveground Historic Properties and Properties in PAPEs with 5 Percent or Greater Visibility

Survey ID	Property Name	Address	Municipality	County	Source	NRHP Status	Full Resource Acres	PAPE Acres	Percent Visible
9336	Garden State Parkway Historic District	Garden State Parkway	Bergen, Passaic, Essex, Union, Middlesex, Monmouth, Ocean,	Atlantic, Burlington, Cape May, Ocean	NJHPO	NRHP-Eligible (NJ HPO-Determined)	12495.84375	7.643012524	0.061164439
665	Pleasantville Mobile Home Court	6737 Black Horse Pike	Egg Harbor Township	Atlantic	NJHPO	Not Eligible (EDR-Recommended)	21.11819649	7.447908878	35.26773071
9281	West Jersey and Atlantic Railroad Historic District	N/A	Hamilton Township and Egg Harbor Township	Atlantic and Mercer Counties	NJHPO	NRHP-Eligible (NJ HPO-Determined)	248.3800964	0.332214028	0.133752272
329646	Resource at NJ Parcel_1321_26_34.01	111 LANES POND ROAD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.65416503	0.19106257	7.198594093
332958	Resource at NJ Parcel_1321_29_32	337 LANES MILL RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	0.957414746	0.108602338	11.34329033
333355	Resource at NJ Parcel_1321_38_7.01	1139 Lakewood Farmingdale	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.648395419	0.168026865	10.19335938
329877	Resource at NJ Parcel_1321_38_2	79 RANDOLPH ROAD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	5.11041832	5.11041832	100
333166	Resource at NJ Parcel_1321_38_23	662 Oak Glen Road	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.200028181	0.543587744	24.70821762
333394	Resource at NJ Parcel_1321_38_8.02	1117 LAKEWOOD FARMINGDALE	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	4.065202713	1.130444646	27.8078289
333153	Resource at NJ Parcel_1321_4_10.02	730 RIDGE AVE	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.298217058	0.517252803	22.50669861
333156	Resource at NJ Parcel_1321_38_10.01	768 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.077756166	0.079593793	7.385138988
333157	Resource at NJ Parcel_1321_38_10.02	798 JOE PARKER RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.046318412	0.058797754	5.61948967
333168	Resource at NJ Parcel_1321_38_20	680 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.750781417	0.095404223	5.44923687
333318	Resource at NJ Parcel_1321_4_7.01	4 Arnold Blvd	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	0.901633739	0.150557205	16.69826698
333370	Resource at NJ Parcel_1321_3_4	2880 Lakeview-Allenwood Road	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	4.721848965	0.494844437	10.47988701
333425	Resource at NJ Parcel_1321_26_29.01	411 ALEXANDER AVENUE	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.892123342	0.118746698	6.27584362
333426	Resource at NJ Parcel_1321_26_29	403 ALEXANDER AVE	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.825047731	0.146005392	5.168245316
9262	New Jersey Southern Railroad Historic District	N/A	Multiple	Multiple	NJHPO	NRHP-Eligible (NJ HPO-Determined)	293.6923523	3.981356859	1.355621576

*Sorted Alphabetically by Municipality

ATTACHMENT B.

ALL PROPERTIES REVIEWED

Attachment B - All Properties Reviewed

Survey ID	Property Name	Address	Municipality	County	Source	NRHP Status	Full Resource Acres	PAPE Acres	Percent Visible
9336	Garden State Parkway Historic District	Garden State Parkway	Bergen, Passaic, Essex, Union, Middlesex, Monmouth, Ocean, Atlantic and Cape May	Atlantic, Burlington, Cape May, Ocean	NJHPO	NRHP-Eligible (NJ HPO-Determined)	12495.84375	7.643012524	0.061164439
663	6704 Tilton Road	6704 Tilton Road	Egg Harbor Township	Atlantic	NJHPO	Not Eligible (EDR-Recommended)	1.480173945	0.002711897	0.183214754
665	Pleasantville Mobile Home Court	6737 Black Horse Pike	Egg Harbor Township	Atlantic	NJHPO	Not Eligible (EDR-Recommended)	21.11819649	7.447908878	35.26773071
7570	Bennett Chevrolet	6740 BLACK HORSE PIKE	Egg Harbor Township	Atlantic	NJHPO	Not Eligible (EDR-Recommended)	4.662504196	0.183425069	3.934046268
7749	Mount Calvary Cemetery	6804 Black Horse Pike	Egg Harbor Township	Atlantic	NJHPO	Not Eligible (EDR-Recommended)	13.68359184	0.269085586	1.966483593
7804	84 Lumber Company	6738 BLACK HORSE PIKE	Egg Harbor Township	Atlantic	NJHPO	Not Eligible (EDR-Recommended)	4.201665878	0.164869949	3.923918724
8305	Searstown Mall	6725 BLACK HORSE PIKE	Egg Harbor Township	Atlantic	NJHPO	Not Eligible (EDR-Recommended)	69.81848907	0.535993218	0.767695248
8365	Rickels Shopping Center	6701 BLACK HORSE PIKE	Egg Harbor Township	Atlantic	NJHPO	Not Eligible (EDR-Recommended)	15.46364403	0.134421796	0.869276345
191324	Resource at NJ Parcel 0108_2117_1	16 DELANCY AVENUE	Egg Harbor Township	Atlantic	NJ Parcel coded to contain building constructed at least 40 years ago	Not Eligible (EDR-Recommended)	0.493631035	0.001729731	0.350409657
193501	Resource at NJ Parcel 0108_2204_13	109 PLEASANT HEIGHTS AVE	Egg Harbor Township	Atlantic	NJ Parcel coded to contain building constructed at least 40 years ago	Not Eligible (EDR-Recommended)	0.604498923	0.000254541	0.042107768
193703	Resource at NJ Parcel 0108_2101_12	6767 WASHINGTON AVENUE	Egg Harbor Township	Atlantic	NJ Parcel coded to contain building constructed at least 40 years ago	Not Eligible (EDR-Recommended)	0.401550472	0.003327808	0.828739762
193754	Resource at NJ Parcel 0108_2303_9	3137 FIRE ROAD	Egg Harbor Township	Atlantic	NJ Parcel coded to contain building constructed at least 40 years ago	Not Eligible (EDR-Recommended)	0.474139631	0.002205307	0.465117544
194868	Resource at NJ Parcel 0108_2117_3	5 STEELMANS LANE	Egg Harbor Township	Atlantic	NJ Parcel coded to contain building constructed at least 40 years ago	Not Eligible (EDR-Recommended)	0.939175785	0.001482626	0.157864615
195452	Resource at NJ Parcel 0108_1118_11	101 ELDERBERRY AVENUE	Egg Harbor Township	Atlantic	NJ Parcel coded to contain building constructed at least 40 years ago	Not Eligible (EDR-Recommended)	0.068810023	0.000247104	0.359111041
195525	Resource at NJ Parcel 0108_2101_17	6781 WASHINGTON AVENUE	Egg Harbor Township	Atlantic	NJ Parcel coded to contain building constructed at least 40 years ago	Not Eligible (EDR-Recommended)	0.208770454	0.000243981	0.116865918
197359	Resource at NJ Parcel 0108_1118_12	103 ELDERBERRY AVENUE	Egg Harbor Township	Atlantic	NJ Parcel coded to contain building constructed at least 40 years ago	Not Eligible (EDR-Recommended)	0.118722394	0.00222394	1.873226762
197400	Resource at NJ Parcel 0108_2008_4	11 LINCOLN AVENUE	Egg Harbor Township	Atlantic	NJ Parcel coded to contain building constructed at least 40 years ago	Not Eligible (EDR-Recommended)	1.339984417	0.021003874	1.567471504
9281	West Jersey and Atlantic Railroad Historic District	N/A	Hamilton Township and Egg Harbor Township	Atlantic and Mercer Counties	NJHPO	NRHP-Eligible (NJ HPO-Determined)	248.3800964	0.332214028	0.133752272
329646	Resource at NJ Parcel_1321_26_34.01	111 LANES POND ROAD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.65416503	0.19106257	7.198594093
332958	Resource at NJ Parcel_1321_29_32	337 LANES MILL RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	0.957414746	0.108602338	11.34329033
333097	Resource at NJ Parcel_1321_5_4	34 Randolph Road	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	10.00842285	0.298523754	2.982725143
333251	Resource at NJ Parcel_1321_26_39.04	165 LANES POND RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.563763142	0.069665901	4.455016136
333355	Resource at NJ Parcel_1321_38_7.01	1139 Lakewood Farmingdale	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.648395419	0.168026865	10.19335938
329646	Resource at NJ Parcel_1321_26_34.01	111 LANES POND ROAD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.65416503	0.082487144	3.107837677
329877	Resource at NJ Parcel_1321_38_2	79 RANDOLPH ROAD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	5.11041832	5.11041832	100
332958	Resource at NJ Parcel_1321_29_32	337 LANES MILL RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	0.957414746	0.00174834	0.182610542
333120	Resource at NJ Parcel_1321_38_4	41 Randolph Road	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Nonextant	12.10784721	5.828146935	48.13528824
333166	Resource at NJ Parcel_1321_38_23	662 Oak Glen Road	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.200028181	0.543587744	24.70821762

*sorted alphabetically by municipality.

Attachment B - All Properties Reviewed

333167	Resource at NJ Parcel_1321_38_22	668 OAK GLEN ROAD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.711395621	0.017278299	1.009602785
333251	Resource at NJ Parcel_1321_26_39.04	165 LANES POND RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.563763142	0.067325085	4.305325031
333333	Resource at NJ Parcel_1321_37_68	1016 LAKEWOOD FARMINGDALE	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.277419567	0.043857701	1.925762892
333394	Resource at NJ Parcel_1321_38_8.02	1117 LAKEWOOD FARMINGDALE	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	4.065202713	1.130444646	27.8078289
333122	Resource at NJ Parcel_1321_14_20	278 ALEXANDER AVENUE	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	7.024230003	0.240235433	3.420096397
333151	Resource at NJ Parcel_1321_39_3	122 PORTER RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.337146282	0.01300719	0.556541562
333152	Resource at NJ Parcel_1321_39_2.02	3039 LAKEWOOD ALLENWOOD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	4.975709915	0.124527119	2.502700567
333153	Resource at NJ Parcel_1321_4_10.02	730 RIDGE AVE	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.298217058	0.517252803	22.50669861
333156	Resource at NJ Parcel_1321_38_10.01	768 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.077756166	0.079593793	7.385138988
333157	Resource at NJ Parcel_1321_38_10.02	798 JOE PARKER RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.046318412	0.058797754	5.61948967
333158	Resource at NJ Parcel_1321_38_11.01	754 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.453333616	0.063293599	4.355063438
333159	Resource at NJ Parcel_1321_38_11.02	748 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.385865688	0.02668575	1.118493438
333160	Resource at NJ Parcel_1321_38_13	730 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.345440626	0.045901053	1.957033277
333161	Resource at NJ Parcel_1321_38_14	726 OAK GLEN ROAD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.439707994	0.037111912	2.577738762
333162	Resource at NJ Parcel_1321_38_15	722 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	4.70726347	0.096333176	2.046479464
333163	Resource at NJ Parcel_1321_38_16	714 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.708107471	0.013130859	0.768737316
333164	Resource at NJ Parcel_1321_38_17	710 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.889723539	0.091695093	3.173144102
333165	Resource at NJ Parcel_1321_38_18	698 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	4.071233749	0.18000339	4.421347618
333167	Resource at NJ Parcel_1321_38_22	668 OAK GLEN ROAD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.711395621	0.062120002	3.629786253
333168	Resource at NJ Parcel_1321_38_20	680 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.750781417	0.095404223	5.44923687
333184	Resource at NJ Parcel_1321_26_22	381 Alexander Avenue	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	5.420564651	0.245627061	4.531392574
333207	Resource at NJ Parcel_1321_2.15_21	411 RAMTOWN GREENVILLE RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.155252457	0.01506037	0.698775232
333252	Resource at NJ Parcel_1321_23_3	442 ALEXANDER AVENUE	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	0.130191118	0.003756494	2.885369062
333318	Resource at NJ Parcel_1321_4_7.01	4 Arnold Blvd	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	0.901633739	0.150557205	16.69826698
333319	Resource at NJ Parcel_1321_4_7	12 Arnold Blvd	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	9.781814575	0.172796339	1.766505957
333370	Resource at NJ Parcel_1321_3_4	2880 Lakeview-Allenwood Road	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	4.721848965	0.494844437	10.47988701
333371	Resource at NJ Parcel_1321_42_21	663 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	4.892539501	0.003458289	0.070684947
333372	Resource at NJ Parcel_1321_42_20	671 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	3.500957489	0.017524624	0.500566602
333389	Resource at NJ Parcel_1321_40_1.01	695 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	0.917788386	0.002281854	0.248625308
333391	Resource at NJ Parcel_1321_39_11.01	773 OAK GLEN RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	3.016291142	0.026230268	0.869619906
333425	Resource at NJ Parcel_1321_26_29.01	411 ALEXANDER AVENUE	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.892123342	0.118746698	6.27584362
333426	Resource at NJ Parcel_1321_26_29	403 ALEXANDER AVE	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	2.825047731	0.146005392	5.168245316
396233	Resource at NJ Parcel_1515_175_7	1084 BROOK ROAD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	6.707754135	0.053175308	0.792743862
396822	Resource at NJ Parcel_1515_174.02_9	1093 BROOK RD	Howell	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	1.845751166	0.005400615	0.292597115

*sorted alphabetically by municipality.

Attachment B - All Properties Reviewed

394814	Resource at NJ Parcel_1515_172_9	685 Squankum Road	Lakewood	Monmouth	EDR-Identified NJ Parcel Pre 1982	Nonextant	6.944837093	0.11085318	1.596195579
396589	Resource at NJ Parcel_1515_172_7	655 Squankum Road	Lakewood	Monmouth	EDR-Identified NJ Parcel Pre 1982	Not Eligible (EDR-Recommended)	4.215127945	0.018135313	0.430243462
9262	New Jersey Southern Railroad Historic District	N/A	Multiple	Multiple	NJHPO	NRHP-Eligible (NJ HPO-Determined)	293.6923523	3.981356859	1.355621576
175917	Resource at NJ Parcel 0118_16.01_45	810 TILTON RD	Northfield City	Atlantic	NJ Parcel coded to contain building constructed at least 40 years ago	Not Eligible (EDR-Recommended)	0.700988472	0.000247104	0.03525085

*sorted alphabetically by municipality.